



Gobi Regional Economic Growth Initiative

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By

MERCY CORPS

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GOBI INITIATIVE PHASE II – YEAR ONE

FOURTH QUARTER REPORT

The Cooperative Agreement for Gobi Initiative Phase II was signed on December 31, 2003 and became effective on January 8, 2004. This is the fourth quarterly report, covering the period of October 8, 2004 to January 7, 2005.

Gobi II has the following goal, objectives and overall focus:

Program Goal:

- To develop and strengthen rural business in the Gobi region

Program Objectives:

- An increase in the number of new and strengthened productive Gobi businesses
- An increase in availability, access to and use of business information by Gobi entrepreneurs

Program Focus:

- Supporting herder groups that are expanding and/or diversifying their business activities
- Supporting the development of herder cooperatives
- Supporting businesses that add value to herder products and link those products to markets
- Promoting rural business linkages to the financial services sector
- Improving the quality and accessibility of local business development and support services

FIRST YEAR SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overall, Mercy Corps/Mongolia believes that Gobi Initiative (Phase II) had a very successful first year. A key component of the Phase II strategy is herder business diversification and expansion. Results from the first year of business plan implementation by the herder groups revealed that although some groups did experience production problems, most did not. Another important result was that profitability and marketability of production did not seem to be a problem; whatever was produced was sold, and at prices that generated profits for the business.

As a result, **MC/Mongolia remains committed to its diversification/expansion strategy**, and is in the process of more than doubling the number of herder groups/cooperatives with which GI will work in 2005.

Gobi Initiative has used sales generated from new business activities outlined in the formal business plans developed under the project as an indicator of success. The sales target for the 73 herder groups and cooperatives assisted during 2004 was MNT 636,837,695 (\$530,700). As of December 31, 2004, sales of MNT 572,525,160 (\$477,100) have been reported by these 73 groups, with these sales directly related to the activities noted in the business plans.

MC/Mongolia is further convinced of the appropriateness of the diversification/expansion strategy, tied to the formal business planning process that initiates the entire process, by the fact that a number of other donors are beginning to copy the strategy and methodology.

Although the number of non-herder businesses assisted by GI was less than originally forecast at the beginning of the year, primarily due to delays in completing the business plans necessary for determining the business activity to be undertaken and the technical assistance required, a number of GI-assisted non-herder businesses did generate significant sales as a result of GI assistance. Sales by these businesses totaled MNT 204,844,000 (\$170,700) as of December 31, 2004. Buyers included the Ivanhoe and Jargalan mining companies, as well as both individual consumers and vendors in the Gobi aimags and in Ulaanbaatar.

Total new/expanded business activity sales, generated as a result of GI-provided assistance during 2004, were MNT 777,369,160 (\$647,800) as of December 31, 2004. Against total Cooperative Agreement spending of \$1,350,000 in 2004, MC/Mongolia believes that this is a significant accomplishment, particularly since these businesses should continue to earn revenue from these business activities in 2005 and well beyond, with or without GI assistance.

The success of the program during 2004 can also be attributed to the loan guarantee mechanism.

During the Phase II planning period, Mercy Corps had identified access to credit as a serious constraint in enabling herder businesses to diversify and expand, due in part to a lack of collateral to secure the necessary financing but also due to high interest rates and the lack of herder business relationships with commercial financial institutions. During 2004, GI provided loan facilitation assistance to 47 herder groups/cooperatives and to 6 non-herder businesses. As a result, loans totaling MNT 145,100,000 (\$120,900) were issued to these businesses, with MNT 102,890,000 (\$85,700) guaranteed by MC/Mongolia through its USDA-funded "RASP" program. MC/Mongolia believes that the introduction of this novel mechanism has been instrumental in (a) helping to link rural businesses (particularly herder businesses) to the financial services sector, (b) creating more competition among banks operating in the rural areas, and (c) reducing interest rates. MC/Mongolia further believes that a loan guarantee program is a far better alternative to stand-alone, client-specific donor programs offering subsidized interest rates, since, under the MC/Mongolia program, the commercial institutions themselves, rather than the donor, set the lending terms, review loan applications, and make lending decisions based on their established procedures.

GI has learned a number of valuable lessons from the first year of Phase II of the project. These lessons include the need to:

- **Be more selective over where vegetables can be successfully grown,**
- **Ensure that start-up production targets are more realistic in terms of quantities and timing,**
- **Facilitate the establishment of more local production input suppliers,**
- **Ensure that loan repayments are tied to sales revenue cycles,**
- **Promote more broad-based decision-making within cooperatives,**
- **Assist with identification and development of the "next generation" of cooperative leaders, and**
- **Enhance the monitoring and evaluation of local training and technical assistance providers.**

Year Two activities will be designed with this learning in mind.

The increased focus on alternative business information dissemination channels, beyond the RBN magazine, is also seen by Mercy Corps and Pact as a successful strategy under GI Phase II. The increase in RBN radio and television programming, combined with a fine-tuning of message content and the way in which those messages are delivered, has already shown results in terms of listener/viewer recognition and awareness, and acceptability and interest on the part of mainstream media. As a result, GI will continue moving toward delivery of highly-relevant business information through creative and popular programs, including radio dramas such as "Herder from the Future", as well as a planned television drama.

FOURTH QUARTER PROGRAM HIGHLIGHTS

The fourth quarter program highlights include:

- GI has completed selection of the "primary" herder clients with whom the project will work during 2005. This includes 56 groups/cooperatives from 2004 (from a total of 73), plus 96 new groups. Business plan training was conducted in all six aimags for the new groups and business plans for all 152 clients were being finalized as the year drew to a close. As in 2004, the business plans will be the foundation for all GI program activities during CY2005.
- A significant market activity during the fourth quarter was the second sale of vegetables and dairy products (curds) to Ivanhoe Mines. Three herder cooperatives, "Bat-Amgalan Khurkh" (Nomgon soum), "Ankh San" (Bulgan soum) and "Aduut Gobi" (Khurmen soum), delivered 7,420 kg of vegetables, including potatoes, carrots, onions, cabbage, turnips and tomatoes, plus 100 kg of curds to Ivanhoe in October, resulting in MNT 3,477,500 in sales. In November and December, the "Gobi

Tulga", "Goviin Buyan Delgerh", and "Bayanbilgeh" cooperatives sold goats to Ivanhoe, resulting in sales of MNT 1,435,000. For the year ended December 31, 2004, sales by twelve herder/non-herder businesses to Ivanhoe Mines totaled MNT 137,763,500 (\$114,800).

- A detailed study of the challenges faced by herder cooperatives engaged in vegetable production was commissioned and completed. The consultant traveled to three aimags (Bayanhongor, Uvurhangai and Umnugovi). The main challenges encountered by the herders included insufficient water access and availability, problems with pests such as mice, rats, grasshoppers and locusts, and a lack of experience and knowledge deficiencies. The report contains a number of recommendations for improving performance in this sector that will be incorporated into the program plan for CY2005.
- RBN initiated capacity-building efforts related to the dissemination of business information by local governments through three two-day training seminars held in Govi-Altai, Bayanhongor and Uvurhangai. The seminars focused on (a) presenting information in a way that is easy for the public to understand and (b) examining ways to improve the existing channels of communication given infrastructure and geographic constraints. Approximately fifteen people attended each seminar from different government departments, including the aimag governor's office and the administration, taxation, police and land departments.
- Mongol TV held an awards ceremony entitled "Fighting Poverty Together" in December. RBN was nominated for and won the prize for "the media entity that has contributed most towards fighting poverty".

OBJECTIVE ONE: INCREASE IN NUMBER OF NEW AND STRENGTHENED PRODUCTIVE RURAL BUSINESSES

Activity One: Business Plan Development and Implementation

During the fourth quarter, herder businesses have been busy with final sales of produce and preparing their livestock for the winter. As has been reported in the past, there were mixed results with dairy and vegetable/fodder production with some groups falling short of production/sales goals and others exceeding their business plan targets. Tables 1 and 2 provide a breakdown of the total sales figures for the year from all the herder clients that have cooperated with GI. A number of the herder businesses that cultivated vegetables have built vegetable cellars during the quarter and have stored part of their harvest, with the intention of selling these vegetables when prices increase during the winter. The dairy businesses continue to sell their production, although that production will decrease as winter approaches and the animals come to the end of their lactation periods.

Table 1 - Planned vs. Actual Sales by Aimag

Aimag	Planned Sales for CY2004 (MNT)	Actual Sales for CY2004 (MNT)	Reasons for Variance
Umnugovi	119,812,595	125,358,500	Exceeded plan
Dundgovi	111,496,200	117,257,460	Exceeded plan even though felt processors received equipment late and did not achieve production targets
Uvurhangai	122,245,200	93,046,400	Inability of major producer to access oat seeds; large dairy receives loan and starts production later than planned
Govi-Altai	216,981,700	183,272,800	Two elite animal breeders will realize sales in 2005 rather than 2004; camel milk producer not sufficiently organized
Bayanhongor	38,980,000	36,971,500	Water constraints and pest problems related to vegetable/crop production
Govi-Sumber	27,322,000	16,618,500	Bankruptcy of large dairy
Total	636,837,695	572,525,160	

Table 2 - Planned vs. Actual Sales by Business Activity

Activity	Planned Sales for CY2004 (MNT)	Actual Sales for CY2004 (MNT)	Reasons for Variance
Dairy production	113,116,000	80,892,400	Tendency of some groups to overestimate raw milk production; GS dairy bankruptcy; large UH dairy late in starting production
Vegetable/fodder production	123,003,000	84,679,500	Localized drought conditions and water, pest and knowledge/experience constraints
Felt production	21,731,095	13,808,000	Delay in receiving equipment/facility access
Breeding of elite animals	41,650,400	34,095,300	Some sales to be realized in 2005 rather than 2004
Meat production	50,624,600	49,799,960	Single pork producer lacked adequate technical knowledge/experience
Tourism	12,740,000	11,725,000	Late marketing
Trade/services	273,972,600	297,525,000	Exceeded plan
Total	636,837,695	572,525,160	

A table listing all of the herder business activities, the GI assistance provided, the sales targets and results, and problems encountered is included as **Appendix A**.

GI has made a significant effort to document why some herder groups experienced difficulties in meeting their business objectives while others succeeded beyond planned expectations. The results from four groups, and an indication as to why we believe they were successful, are as follows:

"Zuunbogdiin Uguuj" partnership, Bogd soum, Uvurhangai aimag

This group cultivated vegetables during the year and harvested the crops this quarter, with excellent results (12,400 kg of potatoes, cabbage, carrots, watermelon, cucumbers and oats). The herders also harvested 25 tons of hay from their fenced field, which they will use as winter fodder for their livestock. To date the partnership has made sales of 4,024,000 MNT through selling part of their harvest. They built a large vegetable cellar with technical assistance from GI and are storing the remaining harvest until prices increase during the winter. The herders participated in the Uvurhangai market event and signed contracts to supply 1 ton of potatoes during the winter of 2004 and spring of 2005 to the secondary school in Bogd soum and the Trade Centre in Arvaiheer soum. The group has prepared their business plan for 2005, focusing on the continued cultivation of vegetables and adding a small tree nursery. It is expected that once the group sells the stored vegetables, they will meet their 2004 sales goal of MNT 8,400,000.

GI has attributed the success of this group to (a) having adequate water and a good irrigation system, (b) proper preparation of the soil, (c) adherence to recommended watering timing and quantities, (d) proper pest control procedures, and (e) a well-organized division of labor among group members.

"Bulag" herder group, Saintsagaan soum, Dundgovi aimag

This group developed a business plan to fatten animals and sell meat worth 11,640,000 MNT during the year. In October the group sold 315 sheep, 12 goats, 7 cows, 1 horse, and 2 camels, with 80% of the sales within the aimag and 20% in Ulaanbaatar. The sales, which totaled MNT 13,160,800, were made to the meat traders located in the wholesale markets.

GI has attributed the success of this group to (a) excellent technical knowledge related to raising productive animals, (b) involvement in the business by all group members, (c) sound business relationships with existing and potential buyers, and (d) good business and financial management.

"Bat-Amgalan Hurkh" cooperative, Nomgon soum, Umnugovi aimag

This group focused on dairy production and the creation of an 800-head goat farm. During the year, the animals produced 11,300 liters of milk which was turned into dried curd, dried curd drops, melted butter, acidified milk, and cottage cheese. 2004 sales totaled MNT 7,200,400 (against a target of MNT 6,728,000), including MNT 5,835,400 sold through a retailer in the aimag center and through the co-op's own shop in the soum center, MNT 1,065,000 sold at the GI-sponsored trade fair, and MNT 300,000 purchased by Ivanhoe Mines.

GI has attributed the success of this group to (a) an adequate number of productive animals and the proper equipment, (b) active participation in the dairy processing training provided by the project, (c) a proper division of labor within the cooperative, (d) good business relationships with buyers, (e) a strong quality control and marketing orientation, and (f) good business and financial management.

"Ushgug Erdene" cooperative, Baruunbayan-Ulaan soum, Uvurhangai aimag

The cooperative has been breeding elite goats since 2001 and recently received a breeding certificate from the aimag's Agriculture and Breeding Department. Their 2004 business plan focused on expanding their elite animal breeding activities. In the spring of 2004, the cooperative members classified the goats of herder families in neighboring Nariinteel soum and purchased 100 elite kids from this soum. Sales income during 2004 totaled MNT 3,677,000. The sales resulted from leasing and selling elite breeding sires. With the profits generated the cooperative bought 25 elite goats and 75 elite sheep in the fall of 2004 to improve herd composition.

GI has attributed the success of this group to (a) high technical competency, (b) particularly good interaction with the GI-provided consultant, (c) a solid reputation in the aimag for animal quality, (d) an excellent relationship with the local government, and (e) high demand for elite animals within the aimag.

From the original 73 groups and cooperatives collaborating with GI during 2004, 56 groups will either revise or develop new business plans for 2005 and will continue to work with GI. Seventeen of the herder groups/cooperatives will not continue with GI, either because they (a) feel they no longer require assistance, (b) are really single family operations as opposed to a functioning group or cooperative, (c) are unwilling to become a formal legal entity, despite being involved in commercial activities, and/or (d) lack the motivation and interest deemed necessary to succeed.

During the fourth quarter, program staff initiated the selection process of new herder groups and cooperatives that will participate in the program in CY2005. They traveled out to the soums to further promote the program and to meet with herder groups that had expressed an interest in cooperating with the program. During this assessment period, 100 new herder groups and cooperatives were initially selected, based on the following criteria:

- Previous experience in working together,
- A formal or informal leader, acknowledged, respected and supported by fellow group members,
- Ability to reach collective agreement on a business activity to be implemented with GI support,
- Agreement within the group that workload and business profits need to be shared,
- No less than six households comprising the group,
- No less than 800 animals owned by group members, and
- A willingness to become a formal legal entity if not one already.

Each aimag office has since conducted intensive business plan training for two representatives from each herder group and at the end of the training the participating herders prepared their first draft business plans. Eligible veterinary businesses were also identified during the field travels and the veterinarians have also developed their 2005 business plans with GI technical assistance.

GI program staff have begun reviewing the draft plans, working with the herders to revise them as required. To date there are 96 new herder groups that have developed business plans and 53 herder cooperatives from 2004 that have either revised or developed new business plans. The initial number of herder groups and cooperatives with which the program will work during CY2005 is therefore 152.

Activity Two: Cooperative Formation

Cooperative formation and development are core components of the GI program. The majority of groups have become formal legal entities; during the fourth quarter, one group established a partnership and another group received the cooperative training required to formerly establish and register as a cooperative (scheduled for spring of 2005). Table 3 provides a summary of the herder business legal status at the end of 2004.

Table 3 - Legal Status of Herder Businesses

Aimag	Cooperative	Partnership	LLC	Herder Group	Total
Bayanhongor	11			1	12
Uvurhangai	16	1		1	18
Dundgovi	9			4	13
Govi-Altai	10			2	12
Govi-Sumber	4			1	5
Umnugovi	8	3	1	1	13
Total	58	4	1	10	73

The ten informal herder groups will continue to collaborate with GI during CY2005 if they agree to become a legal entity, whether cooperative, partnership or LLC. The program staff will assist these groups in the transition and will support the institutional development of the new and existing cooperatives.

Activity Three: Agriculture Training and Technical Assistance

During the fourth quarter, GI provided a total of thirteen training courses. A technical training on business management and cost benefit analysis was provided for private veterinarian businesses in the Dundgovi and Govi-Sumber aimags and one training course was provided to the "Hiadiin Govi" cooperative in Uvurhangai on animal fodder production and winter nutrition. The eleven remaining training courses, on business planning, were undertaken with the new and existing herder groups that will be collaborating with GI in 2005. The total number of training and technical assistance interventions was 137 for the year ended December 31, 2004. As noted in previous reports, the topics were primarily agricultural and livestock-oriented, including vegetable and crop production, animal breeding, dairy product processing, veterinary services, and food sanitary procedures and regulations. Courses were also offered, and technical assistance provided, on rural tourism management, financial recordkeeping and reporting (and other business subjects), and cooperative development.

With GI aimag staff now much more proficient at business planning, the time required to prepare acceptable herder business plans has decreased significantly, from an average of 150 days at the beginning of 2004 for the original 73 Year One groups to an average of 60 days at the end of 2004 for the 152 Year Two groups.

A total of 23 herder groups/cooperatives had developed business plans in 2004 related to vegetable and fodder crop production. As previously noted, results were mixed. Some groups, such as the "Zuunbogdiin Uguuj" partnership, were very successful while others, such as the "Delgreh Shar Huv" cooperative, fared poorly. During the fourth quarter, a consultant completed a detailed study of the herder cooperatives in Bayanhongor, Uvurhangai and Umnugobi that had been engaged in vegetable production. The consultant was tasked with (a) identifying the major challenges and problems faced by the herders as well as the factors that contributed to successful cultivation, (b) analyzing the technical assistance provided and the skills of the local consultants, and (c) providing recommendations to assist with the design of the agriculture (vegetable/crop) strategy for CY2005. The main challenges encountered by the herders included insufficient water access and availability, problems with pests such as mice, rats, grasshoppers and locusts, and a lack of experience and knowledge deficiencies. The report contains a number of recommendations that will be incorporated into the program plan for CY2005. A copy of the consultant's report is included as **Appendix B**.

During the fourth quarter there were two requests from herders and non-herder businesses who are not primary clientele of the Gobi II program but who are eligible to receive assistance under the "refresher courses" component of Gobi II. As described in the Annual Work Plan, these courses are offered by the program provided that there is clear client demand for the training and provided that the participants are willing to cover the full costs of the course. The following two courses were organized by the GI program officers and two Ulaanbaatar-based consultants were hired to provide the training. The consultants' fees were paid by the participants of each refresher course.

Table 4 - Secondary Clientele "Refresher Courses"

Aimag	Topic of Training	Number of Participants	Consultant
GA	<i>Felt boot production and technology on the production of horse saddles</i> - design of boots and saddles, decorating and embroidery	20 people	Ms. Dungaama, Director of Ganga Goyol Ltd.
UG	<i>Restaurant management</i> - necessary services, customer service, staff training, menu planning/food operations	15 restaurant cooks	Mr. J.Oktyabri, Mongolian Culinary Association

Activity Four: Acquiring Critical Inputs

Given the seasonal nature of most rural businesses, only five new loans were issued to GI herder and non-herder businesses from October to December 2004. Through December 31, 2004, a total of 53 herder and non-herder businesses in the six Gobi aimags have obtained loans totaling MNT 145,100,000 (\$120,900), of which MNT 102,890,000 (\$85,700) has been provided by Mercy Corps in the form of additional cash collateral.

During the quarter, most businesses made loan principle and/or interest payments on or before the scheduled due date. A few herder clients made payments that were late by several days, primarily due to difficulties in traveling to the aimag centers, but no loans were in default or required re-scheduling. To date the borrowers have repaid MNT 22,528,162 in principle and MNT 8,655,581 in interest, for a total of MNT 31,183,743. Six herder clients repaid their loans in full to the bank during the quarter.

With the development of new business plans, GI program staff have started to identify the critical inputs that many of the herder clients will be looking to purchase in 2005. A priority for GI has been the identification of potential vegetable and forage crop seed suppliers, especially those offering quality oat seeds. A number of contacts have been made with potential seed suppliers based in Ulaanbaatar and Erdenet; once the business plans are complete and the exact quantities of seeds required are known, the UB-based agriculture officer will facilitate the linkage between the herder clients and the seed suppliers. Other critical input suppliers that the program staff have contacted include vendors of small tractors, irrigation systems, and milk processing equipment such as milk separators and small scale pasteurizers. This information is currently being compiled and will be disseminated to all interested parties, including GI clients, in January 2005.

Activity Five: Long-term Technical Assistance to Non-Herder Businesses

The last quarterly report noted that nine non-herder businesses were selected for long-term technical assistance during 2004. During the fourth quarter, an additional three non-herder businesses have been added; these businesses will continue with the program in 2005. Nine of the twelve businesses have now completed formal business plans. The current status of work with these firms (as of December 31, 2004) is as follows:

Table 5 - Status of Work with Long-Term Non-Herder Business Clients

No.	Aimag	Business Name	Current Status
1	BH	Sulden Tenger cooperative	Business plan completed, focused on establishing own baked goods wholesale/retail outlet. Received a loan for MNT 8,000,000 from Xaan Bank. Completed the refurbishment of new premises for the bakery and installed the machinery and also opened a cafe serving fresh baked products and drinks. The bakery produces 500 loaves of bread and 175 Kg of fine pastries daily. GI provided UB experts on bread/pastry technology, human resources management, marketing and product promotion. Completed a consumer market survey on planned new products. The co-op also had the most sales at the aimag's Sept 2004 market event.

2	BH	Dorniin Gegee LLC	At the recommendation of GI, the company undertook a consumer survey on product packaging, and subsequently received an award for best product packaging at the aimag's Sept 2004 market event. GI also provided a UB consultant on human resource management.
3	GA	Arvin Belt LLC	After long delays, the business plan has been finalized, focused on the production of new types of construction materials and bricks, and a loan application for MNT 25,000,000 is currently being prepared to submit to Xaan Bank. The company will purchase new brick making machinery in early 2005 and will begin production of new bricks and construction material for use during the 2005 construction season. GI will provide a marketing consultancy and further assistance with financial forecasting and budgeting in 2005.
4	UV	Suun Dalai LLC	Business plan completed, focused on curd production. Received a loan of MNT 8,000,000 from Zoos Bank and purchased required machinery. Received GI consultancy on curd and sour cream production technology. The company is currently producing 500 Kg of "worm" curds on a monthly basis and has made sales of MNT 3,000,000 through December 31, 2004. The company has begun signing contracts with herders in the region for future production of curd whey. GI will provide assistance in identifying drying and packaging equipment in 2005.
5	UV	TU-BA-SE LLC	Business plan completed, focused on sanatorium/ger camp upgrading and expansion. The company has recently received a MNT 5,000,000 loan from Zoos Bank. It received a GI business planning consultancy during 2004 and will receive several tourism related consultancies during 2005.
6	DG	TEBBE LLC	Business plan completed, focused on product expansion using more modern production equipment, and submitted a loan application of MNT 10,000,000 to Xaan Bank. The company had most sales during the aimag's Sept 2004 market event. During the last quarter, sales totaled in excess of MNT 5,000,000, including tables and chairs for school #1 and the vocational training center in the aimag and private orders from aimag residents. Received business planning/management consultancies in 2004
7	DG	Goviin Tenger LLC	After long delays, a revised business plan focusing on new beverage products has been completed and is under review by the UB program team. The company is currently preparing a loan application of MNT 15,000,000. GI provided a financial management consultancy in 2004.
8	UV	Molor Khuleg LLC	Business plan completed, focused on improving cost accounting and pricing and marketing and product promotion. Following GI-supported business planning, the company concluded mineral water contracts worth MNT 15,000,000 with the "Bosa", "Sansar" and "Shim" companies in Ulaanbaatar. GI will provide additional technical assistance on marketing and financial planning in 2005.
9	GS	Choir Bakery	Business plan completed, focused on production facility and equipment upgrades. Received a loan of MNT 4,000,000 from Xaan Bank. Received an award for best product diversity at aimag's Sept 2004 market event. During November the bakery made sales of MNT 800,000 in the aimag center and in UB, and has made the first repayments on the loan.
10	GS	Ergel Bogdiin Zoo Partnership	Developed a business plan to upgrade bakery equipment and increase production and submitted a loan application for MNT 1,700,000 to Xaan Bank in December 2004. The company has received consultancies on business planning and marketing and product promotion. GI will provide additional technical assistance on marketing and financial recordkeeping in 2005.
11	GA	Buyan Undral Cooperative	Currently revising a business plan to establish a wool washing facility to process raw wool from co-op members and purchase wool from neighboring herders. GI provided a consultant to assist with business planning in 2004.
12	GA	Dashmyangan LLC	Business plan completed to improve tourist ger camp facilities and improve natural environment around the camp. The company is currently preparing a loan application for MNT 10,000,000 to submit to the banks in spring 2005. GI provided a business planning consultancy in 2004 and will provide technical assistance in facilities management, customer service, food preparation and restaurant management in 2005.

As noted in previous reports, the cost of long-term technical assistance is shared between GI and the client. The above clients paid between 20% and 60% of the consulting fee (average of 45%), with the amount of cost-share dependent upon a number of factors, including size of company, years of operation, relative profitability, etc.

Activity Six: Short-Term Technical Assistance to Non-Herder Businesses

During the quarter a number of requests were received from non-herder businesses for specific short-term technical assistance. Eight activities were organized by the program officers and a total of 23 businesses received technical assistance. In all activities the businesses contributed at least 30% towards the cost of the activity. During 2004, a total of 48 business entities received short-term technical assistance.

Table 6 - Short-Term Technical Assistance

No	Aimag	Name of Client(s)	Technical Assistance Provided	Consultant
1	BH Oct 22-24	1. "Unaga Trade" LLC 2. "Navtgar Khairhan" LLC 3. "Naran-uul" LLC	Assistance on new building technology, concepts/designs and building materials	Ms. Erdenechimeg, Executive Director of "Hungun Beton" construction company
2	BH Nov 26-28	1. "Ikher Bogd" LLC 2. "Urankhairhan" restaurant 3. "MTS-Enh" Uguumur cafe 4. "BI-Enh Tuguldur" Orgil restaurant	Public Food production, new recipes and menus, restaurant layout and kitchen hygiene regulations	Mr. J. Oktyabr, Head of Mongolian Culinary Association
3	DG Oct 19-21	1. "Dalain Khugjil" co-op 2. "Delgerekh Ungut" co-op	Marketing, the "3P's", market survey and product promotion	Mr. G. Bat-Erdene Private UB Consultant
4	GS Oct 20-22	1. "OJS" Tengis cafe 2. "Ulam Mandah" partner. 3. "Solongo" cafe 4. "Gesegt" patent holder, 1st school canteen	Health and food safety compliance, kitchen and restaurant hygiene	Ms. Oyunchimeg, Department Inspector, Govi-Sumber aimag
5	GS Oct 20	1. "Lucky Dent" LLC 2. "Ergel Bogdiin Zoo" partnership	Marketing plans, the "3Ps", market surveys and analyzing market capacity / potential	Mr. Chinbaatar, GI Business Program Officer
6	UG Oct 15-28	1. "Ayanchin" hotel 2. "Hatagtai" cafe 3. "Umniiin Gobi" LLC 4. "Dal Huudas" LLC	Hotel/restaurant management, new menus/recipes, service for the tourism market	Mr. J. Oktyabr Head of Mongolian Culinary Association
7	UH Dec 13-14	1. Altan Holboo 2. DSHL LLC	Hotel/restaurant management, new menus/recipes, service for the tourism market	Mr. J. Oktyabr Head of Mongolian Culinary Association
8	UG Dec 17-20	1. Bumch LLC 2. Nomingovi LLC	Hotel/restaurant management, new menus/recipes, service for the tourism market	Mr. J. Oktyabr Head of Mongolian Culinary Association

Activity Seven: Local Capacity Building for Training and Technical Assistance

Over the course of the year the program has been working with a number of local consultants, GI program officers, and UB-based consultants to provide technical assistance and training to clients. One of the objectives has been to build the capacity of the local training and technical assistance providers. This has been accomplished by training GI aimag staff and promoting the concept of "counterpart" interaction between GI staff and local consultants and the UB-based consultants when the latter travel to the field. An example of successful capacity building to date is the increasing ability of GI aimag program officers to provide business plan training and undertake business planning with local herder and non-herder businesses.

The need to build the capacity of the local trainers is an area that still requires further attention. The program continues to look at ways to better monitor and evaluate the quality and the technical knowledge of the local consultants and training providers. During the quarter, MC/Mongolia reissued an open call for UB-based technical experts to submit their resumes and technical areas of expertise to the organization. GI is also looking into the possibility of developing a system for "certifying" local consultants. A list has been compiled of all the local aimag-based consultants that are available in the Gobi aimags and their areas of expertise. GI plans to evaluate these local consultants on both their technical knowledge and their skills as a trainer. This will likely be done by a two-person team of UB-based experts, one focusing on technical knowledge and the second on the presentation and transfer of that knowledge. The local consultant will be "rated" with any areas requiring ongoing professional development identified so that GI can work with the provider to improve his/her technical and/or training skills.

As previously noted, many of the business-related trainings such as financial recordkeeping, human resource management, business law and taxation, marketing, etc, continue to be provided by Ulaanbaatar-based consultants. More complex technical topics, including milk processing, fodder preparation, crop production, and restaurant and tourism management, also continue to be covered by the UB consultants. GI is continuing to assign local counterparts to each UB consultant, with the goal of having these counterparts develop the necessary skills and knowledge to provide future training and technical assistance. Some examples of this "pairing" are as follows:

Table 7 - UB Consultant "Mentoring" of Local Training/Technical Assistance Providers

Aimag	Training/Technical Assistance Subject(s)	UB Consultant	Counterpart(s)
DG	Food production, new recipes and menus, restaurant layout and kitchen hygiene standards and regulations	Mr. J. Oktyabr, Head of Mongolian Culinary Association	Mrs. Davaanyam, GI program officer
DG	Marketing, the "3P's", market surveys and product promotion	Mr. Bat-Erdene, Individual Consultant	Mr. Daanii, GI program officer
UH	Financial recordkeeping and reporting	Ms. Sarantuul, Accountant of Info Systems Co. Ltd	Mr. Tegshbayar, GI program officer
UH	Hotel/restaurant management, new menus/recipes, service for the tourism market	Mr. J. Oktyabr, Head of Mongolian Culinary Association	Mr. Tegshbayar, GI program officer
UG	Hotel/restaurant management, new menus/recipes, service for the tourism market	Mr. J. Oktyabr, Head of Mongolian Culinary Association	Ms. Gerel, Professional trainer at the Training Center
UG	Food production, new recipes and menus, restaurant layout and kitchen hygiene standards and regulations	Mr. J. Oktyabr, Head of Mongolian Culinary Association	Ms. Gerel, Professional trainer at the Training Center
GA	Felt boot and horse saddle design, production, decorating and embroidery	Ms. Dungaamaa, Director of Ganga Goyol Co.,Ltd	Ms. Erdenechimeg, Private local Consultant
BH	Assistance on new building technology, concepts/designs and building materials	B. Erdenechimeg, Executive Director of "Hungun Beton" construction company	Ms. Byambasuren, GI program officer
BH	Food production, new recipes and menus, restaurant layout and kitchen hygiene standards and regulations	Mr. J. Oktyabr, Head of Mongolian Culinary Association	Ms. Narantsetseg, Private local Consultant

During the fourth quarter the program continued its efforts to identify local "counterparts" to be paired with the Ulaanbaatar experts. The UB office continues to work closely with the aimag program officers to improve their understanding of the rationale behind local provider assessment and to ensure that the most qualified providers are selected, in terms of both technical knowledge and ability to transfer that knowledge. The UB office also continues to follow up with the aimag program officers to ensure that the pre- and post-knowledge acquisition tests are completed on a timely basis. From the post-tests received to date it can be seen that the "counterparts" are gaining additional knowledge from the UB-based consultants, although GI senior management is still convinced that a more formal assessment and independent "certification" process is necessary.

Activity Eight: Market Development

All the herder cooperatives have been actively selling their produce during the quarter. With the harvest of vegetables taking place in August and September 2004, the herder cooperatives began selling part of their produce in the local soum and aimag markets in October. As previously noted, a number of the co-ops have decided to store the vegetables to take advantage of higher winter prices. Sales figures for the individual herder cooperatives and details of these sales have been included under Activity One.

A second sale of vegetables and dairy products to Ivanhoe mines occurred in October 2004. Three herder cooperatives, "Bat-Amgalan Khurkh" from Nomgon, "Ankh San" from Bulgan, and "Aduut Gobi" from Khurmen delivered 3.7 tons of potatoes, 1.5 tons of carrots, 1.0 ton of onions, 1.0 ton of cabbage, 200 kg of turnips, 20 kg of tomatoes, and 100 kg of curds to Ivanhoe on October 18th, resulting in sales of MNT 3,477,500. GI continues to explore business opportunities with Ivanhoe; such opportunities include increasing the sales of vegetable, dairy, bakery, and processed meat products. As Ivanhoe begins construction of the mine camp, they have also expressed interest in having a local provider of consumable materials such as cleaning and office items, packaged foodstuffs and, potentially, spare parts for cars and machines. For the year ended December 31, 2004, sales by twelve herder/non-herder businesses to Ivanhoe Mines totaled MNT 137,763,500 (\$114,800).

In December, the Employers Association of Dornogovi aimag organized a trade and equipment fair, facilitated by the USDA-funded "RASP" program. The fair provided an opportunity to exhibit a wide variety of equipment such as small-scale irrigation and cultivation machinery, as well as the latest technology in communication and information services for rural entrepreneurs. GI assisted ten business people from the Govi-Sumber and Dundgovi aimags to attend the fair, including the directors of seven GI-assisted cooperatives. The participants benefited from acquiring a more thorough awareness of the new equipment and technology currently available and were able to establish business contacts necessary to purchase such equipment and/or learn more about the new technology. The event proved to be a successful way of linking market-oriented enterprises with the businesses that can supply them with high quality inputs and services. GI plans to involve more of these business suppliers in the 2005 market events.

GI also assisted a number of herder clients to sell their traditional handicrafts at the US Embassy trade fair held in December. Herder clients from all six Gobi aimags sent a variety of products with resulting sales of MNT 388,020. Felt products produced by Uvurhangai felt craft trainer Ms. Amrajargal were the most popular; she provided a number of felt training courses throughout the Gobi region during 2004 and remains a highly sought-after consultant.

MC/Mongolia has held a number of meetings with businesses involved in the cashmere sector, from UB-based knitters to US-based designers/importers. The agency remains convinced that there is a market for high-end cashmere goods produced in Mongolia, but only when the monopoly on spinning (currently done by inefficient Mongolian companies and highly efficient Chinese firms) is broken, and small, relatively efficient Mongolian knitters are able to access high quality locally-produced Mongolian yarn that meets specifications established by US firms selling to high-end retailers. As a first step, MC/Mongolia has lobbied strongly for a feasibility assessment on establishing a spinning capacity that would be independent of the large Mongolian firms that are apparently unable to meet the required specifications for yarn quality and origin.

Activity Nine: Local Capacity for Advocacy

In this reporting period no significant activities were implemented with existing herder associations. During the third quarter, GI management concluded that it would be best to defer any significant work with respect to these associations until such time as the cooperatives that they would represent and support reach a size and complexity that would require the types of services (advocacy, marketing support, production input facilitation, information dissemination, etc) that an association could provide. During CY2005 the program will be working with a large number of cooperatives and will be looking at the opportunities to work with the herder associations to explore how best to interact with them, and how potentially the associations could be reorganized to truly represent the needs, and provide services of benefit, to members.

Activity Ten: Local Government Support for Business

During December 2004, five of the six aimag offices organized local government/business community roundtable forums. The objective of the forums was to provide business owners and local government officials with both an opportunity and a venue to explore the constraints and problems encountered by the businesses in the aimag. An output from each forum was a summary of the main topics discussed and any resulting recommendations; this summary was then presented in letter form to the respective Aimag Governors.

Topics for each forum included:

- Govi-Altai - rural land use regulations and procedures
- Bayanhongor - accessing new production equipment and technology
- Uvurhangai - amendment to the "special license resolution"
- Umnugovi - the business environment at the border point
- Govi-Sumber - laws and regulations affecting rural business

The GI Umnugovi office, in consultation with the local business community and the aimag government, organized a roundtable discussion on improving the business environment at the border point. The roundtable was attended by 69 participants, including representatives from local government (12), government service organizations (20), the local business community (20), NGOs (7), local media (5) and the GI office (5). The issues that were discussed included (a) legal ownership of the border point, (b) the poor environmental and working conditions, (c) the responsibilities of organizations that serve the border point, and (d) the duties and responsibilities of residents and businesses that regularly access the border point. Recommendations included the desirability of having local government and local NGOs jointly undertake a survey on trade and business conditions at the border, and the need for government to decide where the border trade center should be established. Details of the discussions were broadcast on Gobi Wave radio and Altan Gobi television.

An assessment of the training needs of local government officials and staff was also undertaken in the 6 Gobi aimags during December. The assessment involved surveying 149 employees of both soum and aimag government offices. The survey revealed that training at the soum government level is virtually non-existent; in Govi-Altai, only one individual had ever attended a training course (cooperative development). The respondents felt that the initial training topics should be focused on building the capacity of local government to (a) support business start-ups, (b) advise on business laws and financing, and (d) support the efforts of NGOs in business development.

Government officials felt that their role was to organize regional/aimag business conferences, provide technical and financial assistance, link businesses to educational/training centers, establish wholesale trade centers, assist with the formation of business networks, provide tax-relief support to new businesses, and encourage more NGO involvement in rural life.

OBJECTIVE TWO: INCREASE IN AVAILABILITY, ACCESS TO AND USE OF BUSINESS INFORMATION

Activity One: Business Information

CRSP Forage Forecasting

In Texas, the Gobi Forage team has been working on data acquisition and parameterizations for the PHYGROW model. All Mongolian weather data has been linked to the Texas A&M automation system and the program has continued acquiring CMORPH rainfall data from NOAA. The automation site is now fully functional at: <http://cnrit.TAES.edu/rsg/rainfall/mongolia.cgi>.

During the fourth quarter, the Gobi Forage field team has been working with a local soil scientist and the Texas A&M team to parameterize the soils in the study region. This work has included identifying the soil types for each of the 120 monitoring sites, the attributes of the soil, and the rock content of the soil. The other research conducted by the team has been the identification and documentation of the grazing preferences of Mongolian livestock for the different rangeland plant species in the study area. Other data collected includes the individual parameters of the plant species according to growth rates, the influence of the ambient temperature, and the drought tolerance of the plant species. The Gobi Forage team remains on target to produce the first information and forage forecast maps by May 2005.

The recently-produced CRSP information video was also translated and subtitled into Mongolian by Pact staff and screened at a UNDP conference.

Production and Dissemination of RBN Mongolian Magazine

During the fourth quarter, Pact produced and distributed three issues of RBN magazine with an average print run of 5,500. Distribution numbers have varied, primarily due to the seasonal income of rural herders. The magazine continues to be printed in a 16-page, tabloid format with an additional 2-page technical insert. In 2005, the RBN magazine will be expanded from 16 to 18 pages per issue, excluding the insert.

The "Lead Story" topics during the quarter were: "How to Be a Good Manager" (October), "Rural Human Resources" (November), and "Supporting Rural Businesses" (December). A quality assessment/use survey was undertaken in all six Gobi aimags during the month of December. This survey showed that, at the present time, the "Lead Story" is read more by non-herder business owners as opposed to herders. Most readers surveyed found the information to be useful.

Mr. J. Serjpovron is the Director of the "Arvin Belt" construction company in Govi-Altai. He confirmed that he has used "Lead Story" and other RBN column information to assist his company in identifying new business ideas, in exploring new marketing channels, and in developing business and financial forecasts.

Mr. J. Bud is the Chairman of the "Gobiin Orgil" cooperative in Umnugovi. He stated that he has obtained new business idea opportunities from RBN on pig farming and fodder production, and on raising beef cattle. The co-op's recent entry into pig farming was highlighted in the November 2004 issue of RBN, and they are now planning to produce fodder during 2005. Mr. Bud is also a big fan of RBN's marketing column, where he has used the tips in that column to improve the packaging and labeling of his co-op's yoghurt.

RBN's "Business Corner" continued providing business tips in many different areas. Its focus during the reporting period was on business marketing and management. Stories were written by RBN staffers with input from GI staff, experts and program clients. In an attempt to keep the stories linked with needs of GI clients and rural herding and non-herding businesses, RBN continues to regularly analyze information from rural markets.

Ranked in terms of story usage, "Business Corner" comes in third after the Technical Insert and the Aimag pages.

The leader of Umnugovi's "Huren Hana" herder group, Mr. D. Tulgazana, was instrumental in organizing a group discussion on rural SME business marketing after the story appeared in RBN earlier this year. The discussion resulted in an increased understanding within the group of the importance of ensuring product quality and understanding competition. According to Mr. Tulgazana, the herders immediately began working on improving product design and product quality. Combining the marketing information provided by RBN with the training provided by a GI consultant, the group conducted a product marketing survey for each of its felt and camel wool products and produced items consistent with the survey results. The end result was impressive; the group sold all of their products, with sales far exceeding their original business plan targets.

The "Aduut Gobi" cooperative in Umnugovi used RBN "Marketing Tips" to successfully contract with Ivanhoe Mines for the sale of vegetables worth 700,000 MNT. The cooperative also used an RBN Technical Insert which provided good tips on fertilization and composting methods.

"Herder Tips" provides new and established agricultural and livestock-related ideas to herders. The focus of the column is not to give simple tips, but to provide more detailed and practical information around herding business risk management. Topics for the reporting period included weather forecasting and winter herding, animal breed improvement, and pig and chicken farming as additional options for diversification.

As would be expected, "Herders Tip" is very popular with herders, while readers in the aimag centers do not generally pay much attention to this column. The quantitative survey conducted in the second quarter revealed that out of 60 respondents, 49 focused on the Aimag pages, and 48 always read "Herders Tip".

Mr. S. Tumor from the "Gobi Tulga" cooperative in Umnugovi is a strong advocate for "Herders Tip". The co-op is successfully running an elite animal breeding business thanks, in part, to information provided by RBN. The cooperative has managed to decrease cashmere micron to 13 over the past few years and, in order to keep the business sustainable, they have also started planting fodder, rehabilitating wells, and focusing on livestock health improvement.

Ms. D.Selenge in Govi-Altai recently read about a chicken-breeding business in neighboring Hovd aimag. Contacting the business, she learned enough from them to start her own business and now has over 30 chickens providing 8-10 eggs every day. She is now looking for information on how to expand into meat production as well.

During 2004, RBN introduced a Technical Insert, providing highly sought-after information about appropriate and new technology relevant to rural economic development. Launched after numerous requests from readers, the Insert offers information on different production and processing equipment that is locally available. Thus far, RBN has provided information on building block machines, as well as equipment for making briquettes and plastic fence poles. The Technical Insert has been popular from its debut, read and effectively used by both herder and non-herder readers.

"Bayantooroin Burd" LLC of Govi-Altai started producing jarred pickles after reading the Sept 2004 Technical Insert. Although the company had planted a number of vegetables, it had never produced pickles before. This new product is bringing in more year-round income for this company.

Dundgovi resident O. Handdorj mentioned that even though he was interested in getting involved in horticulture, he had neither the skills nor the knowledge to do so. The RBN Technical Insert has now given him sufficient knowledge to plant different vegetables, both outdoors and indoors.

Mr. Yura from Dundgovi aimag runs a dairy shop. He uses different methods of milk storage, which he learned from RBN. This knowledge has helped him to better preserve the raw milk, creating additional product options. He is a regular RBN reader.

Govi-Altai's D.Byambatug is a farmer. He encountered problems with using the outdated irrigation system in Sharga soum. From an article in RBN, he learned how to irrigate the field using snow and stream water. He is already planning to modify his irrigation methods for next spring.

RBN's regional pages continue to present the best practices of successful rural businesses. Over 20 stories highlighting these businesses appeared in RBN during the fourth quarter.

The "Huhruun Dolgion" cooperative in Govi-Altai had been planting only wheat each year until they learned of the demand for barley bread in Ulaanbaatar, through an RBN article. They have now added barley as a crop and have found regular buyers in the aimag center and in UB.

Mr. M. Shiirav from Dundgovi built a baking oven, following instructions in one of RBN's aimag pages. "So far, we have not started selling the bread, but we save a lot on what we used to spend on bread" he says.

In an attempt to document usage of information by RBN readers, Pact conducted a survey in December 2004 involving 45 people from Dundgovi aimag. Of the 45 individuals, 36 were regular subscribers and the remainder received the magazine through other channels. Over 40% of the surveyed people mentioned that had done something tangible using information contained in RBN. All of the others stated that they now have good business ideas for implementation in the future.

Mr. G. Dejid from Dundgovi is a locally-renowned businessman, always asked for and willing to offer practical advice. He told us that "many people approach me for advice. I told Bat-Ochir of Saintsagaan soum to run his carpentry business like the one described in the August 2004 issue of RBN. He did so, and he is now doing well in his carpentry business. I also told a herder from Luus soum to fence some pastureland for winter feeding. His animals were saved during the harsh winter".

Mr. G. Yondonpil of Bayanhongor read and used the April Technical Insert to grow vegetables. He also consulted other people living nearby. He said, "The Insert included very detailed information and it was written in an understandable and clear language".

A government officer in Govi-Sumber conducts training on business planning and marketing, using RBN's "Business Corner" as source material.

Story ideas continue to be formulated from reader feedback and from surveys conducted by Pact/GI staff. GI staff have also provided a significant amount of technical input into story ideas and content.

Production and broadcast of RBN Weekly Radio Programming

Throughout the reporting period, Pact produced and aired approximately 950 minutes of radio programming per month, excluding the "Herder from the Future" radio drama. Programming continued to focus on traditional mainstays such as "Market Watch" (providing price information for 50 different commodities) and "Weather Watch" (providing weather forecasts in selected geographic areas). A roundtable discussion on RBN's lead story continued to be produced and aired during the reporting period.

RBN also continued producing some of the newer program segments including the "Business Mirror" series (a talk show with business experts), "Marketing Tips" (interviews with a rural marketing specialist), and "Feature Success Stories" (best business practices of rural cooperatives and companies). Other segments included an RBN magazine review and numerous interviews with business and agricultural specialists on different topics.

Collaboration with rural radio stations was intensified during the quarter. These stations are being used as outside sources for programs, including a ten-part series on business start-ups, and a five-part series on herder business diversification.

Mr. B. Avirmed has more than 2,000 animals and needs to make major decisions regarding the selling of hides, skins, cashmere, and meat. He claims that he cannot afford to make bad decisions and therefore listens to "Market Watch" every day. He is also a regular listener of the "Business Mirror" series, providing information which he has used on more than one occasion to support his herding business.

Feedback from listeners indicated that they are satisfied with the content but also hope for inclusion of more information on a variety of different issues.

Herder from the Future Radio Drama (25 programs)

During 2004, Pact continued broadcasting the radio drama "Herder from the Future" (HFF), with episodes 75-100 airing during the fourth quarter. Over the last several months, Pact has attempted to increase the listening audience through intensive promotion of HFF through RBN magazine and radio.

The topics incorporated into the drama included: business planning, diversification and financing; vegetable planting and irrigation; rangeland management; fencing and fodder production; food security; dairy production, veterinary services; and marketing. The drama continues to be educational, entertaining and thought-provoking, and wildly popular.

Compared to other print products and radio programs, it is obviously more difficult to measure impact and usage of HFF, as it is a more complex media product using an education-entertainment methodology and format. However, the themes and information provided stem from the economic information needs of rural herders and the information is synergized with RBN magazine, radio and TV output. Pact sees HFF as a programmatic strengthening tool. This is exemplified by requests and opinions received on HFF.

"HFF is an interesting drama giving us inspiring news and information, but we are not able to catch all episodes. Is it possible to print and distribute the radio scripts?"

"There are so many interesting programs on Mongol radio, e.g. "Herder from the Future" (From an independent Mongol Radio monitoring survey).

"I think that HFF should be aired via FM radio in the aimag centers. Many rural herders have long wave radios, but townspeople have only FM radios".

Production and dissemination of Market Watch

"Market Watch" continued disseminating price information with efforts focused on increasing the number of commodity prices delivered via the magazine. The print version of "Market Watch" is popular, but it was found less useful than its radio version due to the fact that the radio version is much more current.

The purpose of the service is to eliminate the rural and urban price differentials and enable herders to market their products at the highest price. With increasing herder diversification, Pact has added more commodities on to the price list, focusing primarily on seasonal items (seeds in spring, agriculture equipment in summer, vegetable prices in fall, and fodder prices in winter). The information was disseminated via the following:

- **RBN-509 (MobiCom SMS service).** There are currently 900-1,000 accesses of RBN-509 each month. As herders have limited access to cell phones, users of this service are mainly people living in the aimag centers. As the number of cell phone operators and users increase, the SMS service will become more popular, serving as a back-up to the radio and print "Market Watch" information.
- **RBN Radio-Market Watch Program.** In the last three months, "Market Watch" focused on prices for cashmere, wool, meat, skins, hides and intestines, as well as some non-traditional items. In special cases, like the recent increase in the price of petrol in Mongolia, RBN produced a program highlighting the main cause and the impact on rural businesses. RBN also provided time-sensitive price information, such as vegetable and body weight prices offered by meat processing companies.
- **RBN magazine.** The magazine highlights products that have seasonal significance. As the magazine is only printed and distributed once a month, price information is normally provided only on "non-volatile" products. Price trends of key raw materials are also included in the magazine.
- **RBN TV.** During the fourth quarter, RBN piloted a ten-minute program focused on "Market Watch" and its products, in co-operation with the Social and Economic Programming Department of Mongol TV. Four programs were produced and broadcast during the quarter. In 2005, ten-minute segments will be aired twice per month, focusing on commodity prices and fluctuations, and including expert opinions.

RBN Website

Pact has continued to regularly update the RBN website (www.rbn.mn). More changes in the design occurred this quarter. The website has pulled together all rural business news reported through RBN services and products, and promotion is underway to reach business people residing in Gobi aimags who have access to the internet. Thus far, the automatic counter has registered over 4,150 visitors to the RBN website since January 2004. Pact has also started a portal forum where online readers can write and submit opinions. Since the forum was only launched in mid-November, there are few opinions currently online, but Pact is looking forward to collecting more feedback through this mechanism. The forum is not only for feedback, but it is supposed to serve as the podium to express opinions and offer recommendations regarding rural business development.

From reviewing the website access, Pact has discovered that many of the users are Mongolians living and studying abroad, and foreigners interested in Mongolia. There have been several requests for "Market Watch" information, mainly for research purposes. These requests are mainly from Mongolian students studying overseas.

One businessman who sent an email to RBN is D. Batbold of Hentii aimag. He runs a small company that operates a boiler in the soum center and also plants crops and raises animals. He asked for detailed information about a mushroom growing business in Bayanhongor that was featured in RBN, as well as a contact address. In his email, he said that he gets very useful information from the website.

Planned activities for the website include links to top ranking sites and the launch of a paid online subscription.

Pact will be conducting an online survey to find out who accesses the site, the perceived relevance of the content, and how the website information is used.

Production and Broadcast of RBN TV Programming

The scripting and direction of television programs continued under the supervision of Pact/RBN staff. Pact initially planned the production of two ten-minute TV programs in each month of 2004. However, due to the elections and political party control of the TV airwaves, Pact was not able to broadcast any programming between April and September.

Beginning in October, the planned ten-minute TV programs were produced and broadcast. The program focuses on sharing the best rural business practices with the audience, and during the quarter, five businesses from the Gobi aimags were covered. Coverage of the September 2004 Uvurhangai market event was also planned but not implemented due to technical problems with conversion of NTSC footage to PAL.

Recent surveys show that, under normal circumstances, approximately 40% of GI clients watch RBN TV programs regularly. Viewing has been more problematic during much of 2004 due to irregular broadcast timing caused by the elections, as well as electricity shortages in some areas. Pact has, however, negotiated more consistent and regular timing for 2005

"An RBN TV program once focused on a vegetable producer in Umnugovi aimag. Our cooperatives decided to operate similar business models and asked GI for training on vegetable preservation. We then invited the producer, Mr. Poli, for the training. This taught us a lot. (Baldir, Togtoh, co-op chairmen)

"After our cooperative was highlighted on "Four Seasons" (RBN TV segment), we started receiving requests for more raw materials and more people began to buy our products. So the program helped us to increase sales and get connected to the market". (Chairman of Buyan Undral co-op, Govi-Altai)

Activity Two: Local Capacity for Information Dissemination and Communication

During the fourth quarter, Pact/RBN staff, headed by AVI volunteer Robyn Garner, finalized the development of a training curriculum that focuses on how to manage, improve and undertake information dissemination at the aimag level, in a way that is easy for the public to understand. The curriculum and its

content are based on the findings from the April 2004 information dissemination assessment in Umnugovi and Dundgovi. In November 2004, the training was conducted in Govi-Altai, Bayanhongor and Uvurhangai. The first participants included 45 local government officials and other employees of state organizations. Government departments represented included the Governor's office, tax, health, agriculture, police, legal, information, and environment. Future trainings, scheduled for early 2005, will be organized for other members of the community, including business leaders and representatives from other organizations (NGO's, associations etc.).

The seminars were successful in a number of areas: (a) improving the quality of the information the participants were presenting, (b) encouraging them to see information dissemination from an integrated standpoint, and (c) devising new ways to transmit information over vast distances more effectively using available organizations and facilities. As a result of the training, the participants are now in a better position to be able to pass on this knowledge to their peers, with the aim of forming a more coordinated aimag-wide system of communication transmission and dissemination. The interactive approach to teaching was also a success, encouraging independent thinking and new ideas from the participants. Similar training will be conducted in the remaining Gobi aimags in the first quarter of 2005.

COLLABORATION WITH OTHER PROJECTS

In Ulaanbaatar, Mercy Corps staff continue to meet on a periodic basis with other implementing agencies and with consultants engaged to design and/or evaluate donor-funded rural economic development programs. Discussions were also held with small UB-based knitters on the challenges that they face in meeting foreign production orders, as well as with two US-based cashmere design/import firms that sell to high-end retailers in the United States. These discussions led to a recommendation that a feasibility study for an independent spinning facility be undertaken.

A key meeting was held with the UNDP "Sustainable Grassland Management Project", with the objective of coordinating activities and sharing project planning and implementation information in the aimags of Uvurhangai and Bayanhongor where both projects are working. GI will provide UNDP with the names of the herder groups that will be working with GI during 2005 and the two programs will also look at opportunities to cooperate on the capacity-building of local training and technical assistance providers. A similar coordination meeting was held with the recently-started EU-Tacis project that is being implemented in the aimags of Govi-Sumber, Dornogovi and Sukhbaatar. Meetings were also held with the World Bank funded "Livestock Insurance Scheme", with World Bank staff evaluating the "Sustainable Livelihoods Project", with the "Pasture Management and Community Development" project of WWF, with consultants of the ADB-funded "Agriculture Sector Strategy Study", with the US Embassy-funded Mongolian AgPROMO project, and with USAID land privatization specialist Dr. Gregory Myers from Washington, and contractor Peter Hetz of ARD.

Program staff participated in the UNDP-sponsored Micro-credit National Summit and in the UNDP-sponsored National Conference on Pastureland Legislation. UB-based program staff also participated in the roundtable discussions organized by the Open Society Forum on "Official Donor Assistance for Rural Development", "The Role of Government in the Livestock Industry" and "How to Support Mid-Level Herders". GI Program Director Bayan-Altai was also invited by the government to join the advisory group working on the business development component of the Millennium Challenge Account proposal.

PROGRAM/FINANCIAL MANAGEMENT

In November 2004, the Executive Councilor from the Mercy Corps headquarters visited the program and provided leadership training for the Aimag representatives and UB-based senior managers. Training was also provided on organizing and facilitating large group meetings.

Rural Economic Development Advisor Sean Granville-Ross participated in the USAID-funded conference entitled, "Horticulture Sector Development: Synthesis Workshop on Global Horticulture Challenges" held at the University of California at Davis in October 2004. The full proceedings from the conference are at: <http://caes.ucdavis.edu/IntProg/Hort.htm>.

The GI Program Director Bayan-Altai participated in the Action for Enterprise training, “Promoting Commercially Viable Solutions to Sub-sector and Business Constraints” in Washington D.C. in December 2004. The materials from the training will be provided to other program staff during the annual planning meeting to be held in January 2005. The planning meeting will also incorporate a full day of sub-sector analysis.

Gobi Initiative was also involved in the annual USAID Portfolio Review. Decisions reached during that meeting were summarized in a memo prepared by the CTO, and circulated to all parties.

In December 2004, Mr. Vanchin Tsogt-Ochir replaced Mr. B. Chinbaatar, who had been temporarily filling in as the UB-based Business Program Officer. There were no other key staffing changes during the fourth quarter.

Spending through December 31, 2004 has not yet been finalized, but preliminary figures indicate cumulative expenses of approximately \$1,388,900. This amount is composed of the following:

UB Project Management	\$423,000
UB Program Delivery	251,000
Aimag Program Delivery	287,000
PACT/RBN	275,000
Indirect Cost	152,900

TOTAL	\$1,388,900

The reallocation of program delivery expenses into "target group" results in the following:

UB Project Management	\$423,000
Herder Businesses	358,300
Non-Herder Businesses	179,150
Local Government/Other	550
PACT/RBN	275,000
Indirect Cost	152,900

TOTAL	\$1,388,900

This concludes the Year One Fourth Quarter Report. Attachments to this Report are:

- Appendix A - Table of Herder Businesses, Technical Assistance Provided and 2004 Results
- Appendix B - Lessons Learned and Recommendations for Vegetable Production in the Gobi Region

BUSINESS PLAN IMPLEMENTATION FOR HERDER GROUPS

Appendix A

Aimag	Entity	Activity	Total Planned Sales CY2004 (MNT)	Total Actual Sales to 31 Dec 2004 (MNT)	Actual % of Planned	NOTES	
						GI provided training and technical assistance, including loan and production input/equipment facilitation	Problems encountered/Lesson learned
BH	Tsagaan Undraga	Vegetable/fodder production	4,385,000	2,805,000	64%	MNT 3.0 mln loan, vegetable planting training, seed facilitation.	Vegetable crops affected by pests. Herders lacked experience in veg cultivation. Need for more intensive TA in 2005.
BH	Tsenheriin Tsuurai	Vegetable production	3,560,000	2,380,000	67%	MNT 1.3 mln loan, water motorpump facilitation, vegetable planting consultancy.	Lack of water for sufficient irrigation, yields were lower than forecast.
BH	Malchny Ireedui	Camel milk production	2,580,000	2,660,000	103%	Dairy production/pasteurization consultancy, milk separator facilitation	
BH	Huvt Har	Mongol/buriad boot production	1,460,000	2,150,000	143%	Financial support provided for well rehabilitation. Dairy production and pasteurization consultancy.	
BH	Orgiin Dolgio	Felt production	1,520,000	1,800,000	118%	Marketing consultancy, wool combing equip facilitation.	
BH	Baidragiin Hishigt	Vegetable production	6,110,000	6,060,000	99%	Vegetable cultivation, protection and preservation consultancies	Vegetable crops affected by pests. Need for more intensive TA in 2005.
BH	Mal Munkh	Vegetable production	5,160,000	5,050,000	98%	MNT 1.0 mln loan. Vegetable cultivation, protection and preservation consultancies	Vegetable crops affected by pests. Need for more intensive TA in 2005.
BH	Modon Ovooni Ekhlel	Vegetable production	2,500,000	2,500,000	100%	MNT 500,000 loan, vegetable planting consultancy	Vegetable crops affected by pests. Need for more intensive TA in 2005.
BH	Baruun Nuur	Dairy production	1,265,000	1,016,500	80%	Consultancy on milk product technology and pasteurization, milk separator facilitation	Region partially affected by drought, rangeland did not produce sufficient grazing
BH	Tangad	Butter production	3,150,000	3,150,000	100%	Consultancy on milk product technology and pasteurization, milk separator facilitation	
BH	Biir	Airag/milk/dairy production	3,290,000	3,300,000	100%	Consultancy on milk product technology & pasteurization	
BH	Sarlagiin shim	Dairy cream production	4,000,000	4,100,000	103%	Consultancy on milk product technology and pasteurization, milk separator facilitation	
			38,980,000	36,971,500	95%		
DG	Alagiin Devshikh	Airag production	3,535,000	4,125,000	117%	MNT 1.2 mln loan. Cooperative financial management consultancy	
DG	Devjin	Camel milk/curd production	3,002,500	1,830,500	61%	MNT 1.0 mln loan, dairy production training	Weak group management. Capacity-building TA to be provided in 2005.
DG	Oldohiin Devshikh	Meat production	13,730,000	17,820,000	130%	MNT 2.0 mln loan. Cooperative financial management consultancy, net and fencing facilitation	
DG	Tugrugiin Itgeltel	Wholesale trade	48,137,600	62,000,000	129%	Consultancy on customer relations	
DG	Gal Michid	Felt processing	5,500,000	2,825,000	51%	MNT 1.6 mln loan. Wool combing equipment facilitation, felt market survey	Started the production of felt products late in the year, resulted in small amount of finished products for sale
DG	Logiin Govi	Vegetable/fodder production	3,179,500	450,000	14%	MNT 2.0 mln loan. Vegetable production consultancy	Well was damaged and as a result unable to irrigate sufficiently crops - reduced yields
DG	Dalan	Felt processing	6,600,000	1,375,000	21%	MNT 1.7 mln loan. Equipment facilitation, felt market survey	No production place (workshop), the group worked out of a ger in 2004.
DG	Ongi	Vegetable production	2,802,000	135,000	5%	MNT 1.5 mln loan. Equipment facilitation, cooperative training	Lack of water, very poor irrigation and crops failed in the majority of cases

DG	Bulag	Meat production	11,640,000	14,760,800	127%	Well equipment, fencing and net facilitation	
DG	Narangovi	Felt boots production	1,440,000	870,000	60%	Equipment facilitation, felt boot production training	Due to drought the group members moved long distances in search of pasture, did not focus on felt production
DG	Khalzandalai	Ger hotel	2,720,000	2,825,000	104%	MNT 1.5 mln loan. Contract mediation with UB tour companies, service management training	
DG	Ikh buuts	Vegetable	2,435,000	2,552,000	105%	Cooperative training	
DG	Eviin khuch	Meat production	6,774,600	5,689,160	84%	MNT 2.5 mln loan. Cooperative training	
			111,496,200	117,257,460	105%		
GA	Ajiin Gerel	Gas station	12,400,000	12,375,000	100%	MNT 5.0 mln loan. Gas station safety consultancy, station equipment facilitation	
GA	Tsagaan Gol	Breeding of elite animals	4,650,000	0	0%	MNT 2.0 mln loan. Elite animal selection consultancy	The elite animals will only be ready for sale in 2005 vs. original projection for sales in 2004.
GA	Khurimt Bulag	Dairy production	4,561,000	2,325,000	51%	MNT 2.0 mln loan. Cooperative consultancy, dairy cow breeding/feeding consultancy, tractor facilitation	Milking goats infected with contagious agalactia reduced milk production. TA in 2005 will focus on access to vet services.
GA	Ovoon Den	Breeding of elite animals	2,160,000	0	0%	MNT 1.0 mln loan. Breeding animals selection consultancy	The elite animals will only be ready for sale in 2005 vs. original projection for sales in 2004.
GA	Rashaant Khairhan	Vegetable production	4,800,000	480,000	10%	MNT 1.0 mln. Vegetable planting/cultivation training	Co-op used loan for another purpose.
GA	Deed Uglug	Breeding of elite animal/vet service	5,589,900	4,853,300	87%	MNT 3.0 mln loan, consultancy on new veterinary medicine application, animal washing motopump facilitation	
GA	Eejiiin Tsatsal	Dairy production	4,977,000	3,238,500	65%	Milk pasteurization training, management consultancy, milk separator facilitation	The members used more of the production for their own purposes rather than as planned sales.
GA	Narlag Uguumur	Camel milk production	22,680,000	6,979,000	31%	Marketing consultancy, cooperative consultancy, milk product technology and pasteurization training	Weak group management. Capacity-building TA to be provided in 2005.
GA	Bus Hairhan	Gas station/food trade	132,035,000	133,000,000	101%	Financial recordkeeping and management consultancies	
GA	Tarian Ovoo	Meat production	12,720,000	8,700,000	68%	MNT 1.5 mln loan, cooperative training, BP consultancy	This herder group was selected in May 04 and finalized their business plan in July 04. First sales were only made in the fourth quarter of 2004, further sales expected in 2005.
GA	Devshil	Dairy production	2,876,800	4,010,000	139%	Milk production training, milk separator facilitation	
GA	Urnukh Buyan	Milk production	7,532,000	7,312,000	97%	Milk product technology and pasteurization training	
			216,981,700	183,272,800	84%		
GS	Mandal Sansar	Summer camp / vegetable production	6,780,000	7,700,000	114%	MNT 3.0 mln loan. Camp sanitary and hygiene consultancy, tractor facilitation	
GS	Bilgiin Dalai Ekh	Milk/yoghurt production	10,080,000	0	0%	Facilitated the purchase of animal fodder for the cattle and the provision of veterinary vaccination services provided by the government.	Co-op failed when one member managed to pledge assets for a separate business activity that failed.
GS	Badrakh Shand	Vegetable/hay production	4,952,000	3,000,000	61%	MNT 2.4 mln loan. Vegetable planting/cultivation consultancy, financial reporting training, tractor facil.	Lack of water for sufficient irrigation, yields were lower than forecast.
GS	Sumber Tsagaan Temeet	Hay production	4,200,000	4,418,500	105%	MNT 3.0 mln loan. Milk production and financial reporting training, tractor facilitation	
GS	Heentsii	Breeding of elite animals	1,310,000	1,500,000	115%	Artificial insemination technician training, electric reaper (hay cutting) facilitation	
			27,322,000	16,618,500	61%		
UG	Delgerekh Shar Huv	Vegetable production	3,000,000	500,000	17%	MNT 1.0 mln loan. Various farming consultancies (4), production sales facilitation	Lack of water for sufficient irrigation, yields were lower than forecast.

UG	Govi Tulga	Breeding of elite animals	8,585,000	9,225,000	108%	MNT 3.0 mln loan. Cooperative marketing consultancy, equipment facilitation	
UG	Aduut Govi	Vegetable production	3,200,000	3,245,000	101%	MNT 1.0 mln loan. Various farming consultancies (4), equipment facilitation	
UG	Ulgii Mandal	Fodder production	2,200,000	500,000	23%	Fodder production training and marketing consultancy	Weak management. Capacity-building to be provided in 2005.
UG	Batamgalan Hurh	Dairy production	6,728,000	7,200,000	107%	MNT 4.0 mln loan, milk production technological training, equipment facilitation (pole, seed)	
UG	Govii Buyan Delgerekh	Breeding of elite animals	1,735,000	2,265,000	131%	MNT 1.0 mln loan. Cooperative marketing consultancy, Wooden pole, seed & net facilitation	
UG	Jargalantiin itgeltse	Breeding of elite animals	1,941,000	2,101,000	108%	MNT 1.0 mln loan. Fodder plant cultivation consultancy. Fence, wooden pole, net & seed facilitation.	
UG	Zuramtain devshil	Breeding of elite animals	2,496,500	2,496,500	100%	Fodder plant cultivation consultancy. Fence, wooden pole, net & seed facilitation	
UG	Hamtiin Huch	Vegetable production	3,360,000	3,100,000	92%	MNT 1.0 mln loan. Various farming consultancies (4), Wooden pole, net & seed facilitation	
UG	Khuren Khan	Camel wool/felt production	1,491,095	1,500,000	101%	MNT 2.0 mln loan. Felt production training, marketing consultancy	
UG	Enger Tsagaan Hairhan	Gas station	79,940,000	88,000,000	110%	Petroleum products, financial record keeping, and marketing consultancies	
UG	Naran Zug Melmii	Veterinary service	2,630,000	2,720,000	103%	Veterinary management and information systems consultancies, state order acquisition facilitation	
UG	Bumbat Urjikh	Veterinary service	2,506,000	2,506,000	100%	Veterinary management and information systems consultancies, state order acquisition facilitation	
			119,812,595	125,358,500	105%		
UH	Taatsaiin Huh Arvai	Vegetable/fodder production	8,255,000	6,700,000	81%	MNT 1.3 mln loan. Vegetable storage & processing and cultivation of fodder plants consultancies	The area was affected by drought. Lack of water for sufficient irrigation, yields were lower than forecast. The group had difficulties in controlling pests.
UH	Ushgug Erdene	Elite animal breeding	3,637,000	3,637,000	100%	MNT 3.0 mln loan. Breeding technology and financial management consultancies	
UH	Hiadiin Govi	Vegetable/fodder production	5,540,000	4,430,000	80%	MNT 2.0 mln loan. Vegetable planting & storage and soil protection/plant cultivation consultancies	The area was affected by drought. Lack of water for sufficient irrigation, yields were lower than forecast. The group had difficulties in controlling pests.
UH	Ongon Mandal	Dairy production	4,452,000	5,503,000	124%	MNT 3.0 mln loan. Basic/advanced milk prod. training	
UH	Bayanzulegt	Vegetable/fodder production	8,600,000	7,150,000	83%	MNT 4.8 mln loan. Crop/fodder cultivation consultancies	The area was affected by drought. Lack of water for sufficient irrigation, yields were lower than forecast. The group had difficulties in controlling pests.
UH	Munkh Gurvan Hairhan	Vegetable/ fodder production	6,060,000	6,225,000	103%	MNT 3.0 mln loan. Crop/fodder cultivation consultancies	
UH	Uguuj Teel	Vegetable/fodder production	7,172,500	5,750,000	80%	MNT 2.6 mln loan. Vegetable planting/storage and financial management consultancies	The area was affected by drought. Lack of water for sufficient irrigation, yields were lower than forecast. The group had difficulties in controlling pests.
UH	Uguuj Chandmani	Dairy production	5,606,700	8,028,600	143%	MNT 4.3 mln loan. Milk processing training, equipment facilitation	
UH	Hatanmod Hairhan	Vegetable production	6,662,000	5,400,000	81%	MNT 4.0 mln loan. Vegetable planting/storage consultancy and fencing material facilitation	The area was affected by drought. Lack of water for sufficient irrigation, yields were lower than forecast. The group had difficulties in controlling pests.

UH	Ideenii Deed	Butter production	3,000,000	7,447,800	248%	MNT 1.5 mln loan. Milk processing technology and financial management consultancies	
UH	Shimt sureg	Dairy production	19,800,000	8,666,500	44%	MNT 2.9 mln loan. Milk processing and marketing consultancies	Co-op received loan late and, as a result, started production later than planned
UH	Bayandulguun	Ger camp	3,240,000	1,200,000	37%	MNT 3.2 mln loan. Tourism (& related) training.	Lack of marketing combined with short first year tourist season
UH	Aviat Aman Bulag	Vegetable/fodder production	16,470,000	4,984,250	30%	MNT 9.8 mln loan. Crop/fodder cultivation consultancies	Failed to plant on 60 hectares of land due to lack of oat seeds. GI to facilitate seed access in 2005
UH	Dulguun Devshil	Felt production	3,750,000	3,850,000	103%	MNT 0.7 mln loan. Felt training/equipment facilitation	
UH	Urjliin Hugjil	Pork production	5,760,000	2,830,000	49%	MNT 4.0 mln loan. Cooperative training and pig breeding consultancy	Lack of experience in raising pigs. Need for more intensive TA in 2005.
UH	Ugalz Buman Sureg	Felt production	1,430,000	1,588,000	111%	Felt and financial management training, equipment facilitation	
UH	Hatan Olon Hudag	Breeding of elite animals	4,410,000	2,791,500	63%	Cooperative training, animal breeding consultancy	Weak group management. Capacity-building TA to be provided in 2005.
UH	Zuun Bogd Uguuj	Vegetable/fodder production	8,400,000	6,864,750	82%	MNT 3.0 mln loan. Vegetable planting/storage and cultivation consultancies	The area was affected by drought. Lack of water for sufficient irrigation, yields were lower than forecast. The group had difficulties in controlling pests.
			122,245,200	93,046,400	76%		
		Grand Total Sales	636,837,695	572,525,160	90%		

LESSONS LEARNED AND RECOMMENDATIONS FOR VEGETABLE PRODUCTION IN THE GOBI REGION

Author: Ms. Hishigt Tsogtoo, BSc and MSc in Agronomy from the Mongolian Agriculture University, Ulaanbaatar.

This report identifies the major problems and challenges faced by the herder cooperatives in growing vegetables, how these problems/challenges affected the production, and what can be learned in this first year of supporting such production. The report also highlights the successes that some herder cooperatives had and the factors that led to these successes. The consultants and trainers that provided technical assistance were interviewed and the various needs for further training are discussed. The report also provides general recommendations related to vegetable production in the Gobi region.

1. Major Problems and Challenges Faced by the Herder Cooperatives

Lack of Experience and Insufficient Knowledge

The initial business planning undertaken by the herders at the beginning of 2004 often made incorrect assumptions concerning the seeding rate and the projected quantities of the vegetables that would result. The lack of experience and knowledge was most evident with regard to water issues. The herders were unaware of the exact quantities of water that would be required during vegetable cultivation. In some cases the vegetable fields were located too far from reliable water sources and the quantity of water used to irrigate the growing crops was insufficient (watering regime during plant growing). Other areas in which the herders lacked experience and knowledge included: selecting appropriate vegetable seeds, finding good seed suppliers that sold quality vegetable seeds, using proper planting and cultivation methods, improving soil fertility, preparing compost and bio-fertilizers, determining fertilizer rates, caring for the growing vegetable crops, controlling pests, determining harvest dates, and storing vegetables.

Use of Water / Irrigation Methods

For the herders, the most crucial factor to consider for vegetable cultivation is access to water and the effective and efficient use of water. In a number of cases the herders were unaware of the quantities of water needed for successful vegetable production. There were also a number of herder groups/cooperatives who had cultivated land that was not close enough to the water source. These groups planned to cart water to the vegetable fields. This was time consuming and labor intensive, with the result being that vegetables did not receive sufficient water. Consequently, production yields were low.

Herder cooperatives that had rehabilitated wells for the production of vegetables encountered a variety of problems - some of the wells did not have sufficient water flow for irrigation purposes and a number of the well pumps that the herders used lacked the capacity to pump sufficient quantities of water to irrigate the vegetable fields. It was also mentioned by the herders that the costs of running a water pump had not been accurately calculated and in many instances it proved to be expensive to run the pump often enough to meet the water needs of the vegetable crops.

Herder cooperatives that had purchased irrigation systems encountered problems with accessing sufficient quantities of water when they tried to pump directly from a well to feed the irrigation system. Those groups who pumped water from streams and rivers did not have this problem. However, all groups did comment that the cost of running irrigation equipment had not been fully anticipated and that as a result they had not provided sufficient water to the vegetable crops due to reduced use of the pumps and irrigation systems. The end result of lack of water is poor growth of the vegetable crops and lower yields.

The herder cooperatives that used irrigation canals to supply water from existing rivers and streams had few problems with quantities of water or expenses for irrigation as the water canals were gravity-fed. One problem that some groups encountered was the silting-up of the irrigation canals and sand blowing into the canals. Group members needed to remember to dig out the canals on a regular basis.

Pest Invasion and Pest Control in the Vegetable Fields

The main pests encountered by the herders were Brandt's Vole, mice and rats, grasshoppers/locusts and black flies. The pest problem was a major one, especially for those groups that had started new areas of cultivation and had never had to control pests previously. Most herders had very little knowledge or experience in dealing with pests; this resulted in reduced vegetable yields. In southern Uvurhangai, the Brandt's vole and field mice attacked the watermelons, pumpkins and cucumber crops. The potato crops were also affected by the rats and mice burrowing in the fields and eating the potatoes. Grasshoppers/locusts were also a major problem for herder groups that were cultivating vegetables in the open steppe zones of the Gobi.

Storage of Vegetables

Many of the herder groups and cooperatives lacked sufficient knowledge and had little experience with building suitable cellars to store vegetables. Herders received technical assistance from GI, but this was still not sufficient to ensure that the most appropriate cellars were built or that vegetables were stored correctly in the cellars. The cellars visited had problems with ventilation, heating and stacking of the vegetables.

2. Successes of Some Herder Groups

A number of herder groups succeeded in growing vegetables and had good yields. Some of the factors contributing to success included:

- Cultivation of vegetables close to running rivers and streams, with canal irrigation used to water the crops. In these cases there was sufficient water for irrigation and all crops grew well, producing high yields.
- Group organization and proper division of labor. Small scale vegetable cultivation is very labor intensive and required the groups to be disciplined and to divide the required tasks among all members.
- Improved fertility of the soil through the use of animal manure. In the fields where animal manure had been added and there was sufficient water, the crop yields were high.
- Previous experience in growing vegetables and timely technical assistance from local consultants.
- Sales of large quantities of fresh vegetable produce at GI-sponsored aimag market events in September. The market events demonstrated to the herders that a strong market exists for Mongolian-grown vegetables and that people will pay a higher price for good quality Mongolian vegetables.
- Proper equipment, including small tractors and implements from the Ministry of Agriculture. Information provided by GI program officers on available equipment helped herders to access inputs and to make decisions on what equipment and inputs they should purchase.

3. Provision of Technical Assistance

During the year a number of local consultants in the Gobi aimags provided training and technical assistance to the GI-supported herder cooperatives and groups. The local consultants were interviewed and their ideas and experiences of the year were discussed. Over all, the local consultants have a solid basic understanding of vegetable production. There is, however, a need to provide these consultants with better training materials and with additional professional development to improve their technical knowledge.

Gobi Initiative should plan to provide the local consultants with training on the following topics and aspects of vegetable production:

- Methods of improving water usage, including mixed crop planting, sprinkler and drip irrigation, and the covering of vegetables with plastic sheeting to conserve water.
- The latest techniques of small-scale irrigation and water storage, including water catchment systems for spring snow melts and rainfall, shallow wells and hand-operated well pumps, gravity-fed irrigation canals, and the rehabilitation of old water reservoirs and dams.
- The production of bio-fertilizers and compost using food wastes and animal manure.
- The cultivation of higher-value vegetable crops suited to conditions of the Gobi region, including watermelons, cucumbers and vegetables with a shorter growing period, e.g. French beans and courgettes.
- The cultivation of selected fruit and berry bushes adapted to the Gobi region, including sea buckthorn and small fruit bushes, e.g. black currant.
- The procedure for collecting vegetable seeds from existing crops, especially potatoes.
- The problem of potato seed viruses and the undesirable effects associated with poor potato seed selection (transmission of viruses, potato blight etc.).
- Improving fodder crop (alfalfa, oats, and improved grass species) production.

Other recommendations with regard to the provision of technical assistance:

- Local consultants should work with the Gobi Initiative staff in the initial selection of herder groups that want to diversify their activities into vegetable and fodder production. The local consultants would be able to provide advice on the selection of suitable areas for growing vegetables and on the minimum requirements with respect to water, soil fertility, and access to inputs and market opportunities. This advice would be timely and help to ensure that only those groups with suitable conditions for growing vegetables and fodder crops are selected.
- Local consultants should work with the herder groups when they are developing their business plans. This will help to ensure that the herder groups correctly calculate the quantities of seeds required and the true costs of production, and estimate the production yields properly. The consultants can also help the herder groups to identify the specific training that will be needed and the optimal timing of that training.
- Technical assistance should be an ongoing activity throughout the year. For many of the herder groups the cultivation of vegetables is a completely new activity and they have very little experience or knowledge. Through regular contact with a local consultant the herders will be able to receive assistance and advice as the year progresses and as each stage of the cultivation cycle is reached (soil preparation, planting, weed and pest control, irrigation, harvest, and storage of the final products).

4. Access to Market

At the aimag level there is a constant demand for Mongolian-grown vegetables from the consumer. During visits to the markets it was also noted that Mongolian-grown vegetables were sold for a higher price than the Chinese-grown vegetables. The majority of herders who produced vegetables during the year sold their products on the local market. The other area for further collaboration and potential expansion is the market linkage with the mining companies in the Gobi region. In Umnugovi, the GI herders successfully sold vegetables to Ivanhoe Mines. Opportunities should be explored with the other mining companies and the growing tourist and hotel sector in the region. The other market opportunity for Mongolian vegetables at the aimag and soum level is the kindergartens, schools and hospitals. Those herders who sell vegetables to these institutions should ensure that they have a contract with the organization and that a price is agreed in advance.

The success of the GI-sponsored aimag market events was mentioned by a number of herders who had participated and sold all their produce. These aimag events have highlighted the existence of a market demand for good quality Mongolian-produced vegetables.

5. Recommendations

- 1) During the business plan design and preparation phase, Gobi Initiative should seek the assistance of the local consultants with the review of new business plans. Details of vegetable seeding rates, yield expectations for vegetables grown in the Gobi region, watering regimes and fertilizer rates are attached as an annex to this report. These estimates and standards should be used to check that business plans are realistic and accurate in terms of production costs, yields, sales estimates etc.
- 2) For herder groups seeking to diversify into vegetable production, GI staff should ensure that the groups consider the following: i) existing experience within the group, ii) planned water sources, iii) access to necessary inputs (seeds, machinery), iv) soil conditions, and v) market opportunities.
- 3) GI should offer further training for the local consultants to improve their technical knowledge and training skills with regard to all aspects of vegetable and fodder crop production.
- 4) There are a variety of vegetables and fodder crops that can be grown successfully in the Gobi region. GI should conduct further research on these vegetables and provide technical information related to the cultivation of these crops to the local consultants and cooperating herders. Examples of some of these vegetables and fodder crops include: watermelons, sweet melons, cucumbers, courgettes, and fodder plants such as alfalfa, oats, and soybeans.
- 5) Training needs to be provided to both the herders and the local consultants on the preparation of compost and bio-fertilizers and the use of animal manure to improve soil fertility.
- 6) GI should continue to provide assistance to the groups in accessing quality inputs (seeds, fertilizers, irrigation equipment, fencing equipment and machinery). GI could also assist entrepreneurs to establish small agricultural input supply shops, based in the aimag centers.
- 7) GI staff and the local consultants should pay greater attention to the issue of water and irrigation. For successful vegetable production, the primary need is sufficient water that can be accessed and irrigated with the highest level of efficiency, both in terms of water usage and cost. With this in mind, the following is recommended:
 - Identify potential water sources first. For small-scale vegetable production, the most appropriate water sources are natural running streams, rivers and springs. If herders plan to use wells and irrigation systems, full consideration needs to be given to the expenses of purchasing the systems (pumps, pipes, sprinkler systems), the cost of running the pumps (fuel, spare parts, maintenance), and the capacity of the proposed water source in terms of water flow rate, depth of well etc.
 - GI should look to collaborate with suppliers of water pumps and irrigation equipment to obtain detailed technical information on the water pumps, their pumping capacity, fuel consumption and prices.
 - Further research should be conducted and training provided on water catchment technology from spring snows and rainfall. Technical information on arid vegetable production should be researched from countries that experience similar conditions. This information should be disseminated to the local consultants well as shared with the herder groups.
 - Alternative irrigation systems and cost-effective equipment (such as drip irrigation systems), should be researched and the information disseminated to consultants and herder groups.
 - GI should prepare simple manuals that detail the water requirements of vegetables that are cultivated in the Gobi region. The manual should also include information on how often vegetables should be irrigated and the costs associated with the different methods of irrigation.

- 8) Pest control was a major problem for the herder groups and cooperatives during 2004. Technical assistance and training needs to be provided to the herders in the use of appropriate pesticides to control pests, taking into full consideration the environmental and health issues. Efforts should also be undertaken to involve herder groups in local government activities for the control of the Brandt's vole and field mice. Research should be conducted on the advantages and disadvantages of using various traps to catch the voles and field mice, and on mixed cropping systems and integrated pest control procedures utilized successfully in similar environments elsewhere.
- 9) Demand for Mongolian vegetables increases as the winter progresses, with the highest demand being around Tsagaan sar. With this market opportunity in mind, GI should provide technical assistance to the groups on how to store vegetables during the winter, including support for the design and construction of appropriate cost-effective vegetable cellars. Other areas for future assistance should include vegetable quality control, packaging and strengthened market linkages.

Assessment of Vegetable Production Uvurhangai, Umnugvbi and Bayanhongor Aimags

Objective: To evaluate problems encountered in vegetable and fodder production, final results, and factors contributing to success/failure.

Methodology: Discussions with herder groups/cooperatives on soil conditions, water resources, irrigation methods, fertilization, planting, cultivation, harvest yields, seed reservation, production sale and storage, market information, and business planning.

Name of herder group and activities undertaken	Crop yield	Primary success	Primary success factors	Primary factors contributing to reduced yields	Noted problems	Recommendations for resolving problems
Uvurhangai 1. "Zuun bogdiin Uguuj" Soil- Gobi grey brown soil containing potash with lower productivity Fertilizer- Land planted with potatoes is fertilized with manure, other vegetables receive manure solution Irrigation- Sufficient water supply. Vegetables were watered by irrigation pipe, every 7-14 days. Animal fodder irrigated by sprinklers. Pests – Number of mice in the area increased; problem for carrot production in particular Seed reserve –Sufficient vegetable seeds reserved Storage- Stored two tons of potato seeds and vegetable s Equipment and tools- obtained a sprinkler from the MoFA. Comment from members: Leasing of tools is preferred, but	Harvested 11 tons of potatoes, 200 kg of carrots and turnips and 50 kg of pumpkins Oats grew to 20 cm but they did not collect them	Land -Acquired good land Fertilizer -Vegetable planting field is fertilized to improve its productivity Irrigation- Sufficient water supply Production- Members happy with yield of vegetables, fodder plants and oats. Experience -Gaining experience on how to plant potato,	Irrigation - Last summer did estuary irrigation. - Soil moisture was good at ploughing time - Sufficient water supply Fertilizer- Potato growing area fertilized well Labor - Two group members were diligent and worked hard	Planning and site selection -Did not take professional advice on how to estimate yield of carrots and beets and selected an unsuitable area for planting these two crops Fertilizer- Carrot and beet field was initially fertilized well enough to improve soil nutrition, but fertilized only during plant growing with additional manures.	Knowledge- Not familiar with technology of planting some types of vegetables in Gobi region -Not familiar with proper cultivation methods for watermelons, cucumbers, and tomatoes -Delayed cucumber harvesting and all cucumbers became too mature -Lack of knowledge on simple vegetable preservation methods -Poor knowledge about how to store vegetables in	Practical consultancies- Selecting vegetables, preparing land, proper seeding and fertilization, and production of Gobi-adapted seeds. Fertilize r- Improve soil with 40 tons of manure per hectare Other crops - Experiment with growing brushes and planting forage corn, pea and yellow pea. Storing- Building a cellar with less capacity. Cellars with higher capacity require more heating, ventilation and labor costs. Pests - Participate in soum pest control activities and used pesticides as appropriate.

<p>interest rate should not exceed 0.8%. (current rate of WB Sustainable Livelihood project)</p> <p>Market information –Sold vegetables to nearly 200 households in neighboring soum. Major competitors are located in Bulgan soum, Umnugovi (200 km) and in Taats soum (100 km). Vegetable market price is MNT 250–300.</p>		<p>fodder, oats and alfalfa.</p> <p>Collected 15 tons of hay</p>			<p>cellars</p> <p>-Weak knowledge on how to choose economically efficient vegetable types</p> <p>Pest-Large number of voles which damaged soil and plants.</p>	
<p>2. "Bayanduhum"</p> <p>Soil-Gobi light brown containing potash with lower productivity</p> <p>Fertilizer – No</p> <p>Irrigation- Two months spent on building 3 km canal</p> <p>Pests –Large number of grasshoppers and mice</p> <p>Seed reserve - 3–4 packages of oat seeds</p> <p>Storage – at home</p> <p>Equipment and tools-YUMZ-6 tractor</p> <p><i>Comment from members:</i> Small tractor, bailer and rakes are immediately required.</p> <p>Market Information- No sales this year.</p>	<p>No yield from potatoes. Harvested 200 kg of carrots and beets for own consumption</p>	<p>Land -Acquired land to plant oats and alfalfa. Green fodder grew 50cm. Members were happy that with fodder production.</p> <p>Collected 10 tons of hay</p>	<p>Irrigation: Surface irrigation - canal from river</p>	<p>Fertilizer- Did not fertilize planting area and vegetables did not grow properly.</p> <p>Irrigation - A lot of labor and time spent on building irrigation canal</p>	<p>Knowledge-</p> <p>-Did not take professional advice on business plan development and made unrealistic yield estimates</p> <p>-Did not understand importance of fertilizing</p> <p>-Not familiar with timing of oat seed collection</p> <p>Pests - Increased number of voles</p>	<p>Practical consultancy: Crop cultivation training scheduled when crops are growing; not prior to planting.</p> <p>Planning -Proper yield estimation</p> <p>Fertilizer- Improve soil with 40 tons of manure per hectare and fertilize land with manure processing bio methods</p> <p>Pests - Participate in soum pest control activities and used pesticides as appropriate.</p>
<p>3. "Munkh gurban khairkhan"</p> <p>Soil- Gobi light brown soil containing potash with lower productivity</p> <p>Fertilizer- No</p> <p>Irrigation- Canal/river system</p> <p>Seed reserve- Adequate quantity</p>	<p>Planted close to water running path; potatoes grew very well. Turnips also</p>	<p>Land - Acquired land to plant potatoes, turnips, wheat and</p>	<p>Irrigation: Furrowed from river by surface method</p>	<p>Labor - Key worker injured and unable to work in field.</p>	<p>Knowledge-</p> <p>Need to learn more on planting fruit woods</p> <p>Pests- Increased number of voles</p>	<p>Fertilizer- Improve soil with 40 tons of manure per hectare and fertilize land with manure processing bio methods</p> <p>Pests - Participate in soum pest control activities and</p>

<p>of vegetable seeds. Alfalfa seeds and buckthorn bushes are not available.</p> <p>Storage - Potatoes will be stored in special cellar.</p> <p>Equipment and tools - Only old tractor available; frequently breaks down. Tractor need high.</p> <p><i>Comments from members:</i> Wish purchase small tractor and build own cellar.</p> <p>Market information-Bayanteeg mining site is 45 km away; competitors are located 15 km. distance. Vegetable market price is 250-300 MNT. Highest demand for animal feed, potatoes, cabbage and onions.</p>	<p>grew well even with voles eating plant leaves.</p>	<p>barley but voles ate wheat/barley seeds</p> <p>Collected 15 tons of hay</p>			<p>Seed reserve - Inadequate availability of oat and alfalfa seeds and buckthorn sowings</p>	<p>used pesticides as appropriate.</p> <p>Facilitation: Facilitate acquisition of oat, alfalfa, buckthorn and other required seeds.</p>
<p>4. "Uguuj Teel" -</p> <p>Soil - Black soil with high nutrition.</p> <p>Fertilizer - Produces fertilizer and ferments pigeon droppings.</p> <p>Irrigation - Canal/river system</p> <p>Seed reserve - seeds for potatoes, vegetables are available</p> <p>Storage - Stored in soum cellar</p> <p><i>Comments from members:</i> Proposing to set up hotel located near hot sanitarium; use vegetables for hotel meals.</p> <p>Market information - Nearby mines and canteens along main road (18 km)</p>	<p>Planted 4 tons of potatoes, 3 tons of cabbage, 1 ton of cucumbers and tomatoes for own consumption</p> <p>Alfalfa grew 20 cm.</p>	<p>Land - Acquired land to plant vegetables; Cabbages in particular grew well</p> <p>Collected 5 tons of hay</p>	<p>Irrigation- Furrowed from river by surface method</p> <p>Fertilizer- Used manure and advice from nearby agronomist</p>	<p>Nature factors - Due to hot summer weather and local drought yield did not reach expected rate. Irrigation did not help</p>	<p>Nature factors - Hot weather affected crop yields</p>	
<p>5. "Khatan mod khairkhan"</p> <p>Soil -black soil with high</p>	<p>4 tons of</p>	<p>Land -</p>	<p>Seeds -</p>	<p>Nature factors -</p>	<p>Poor knowledge - -</p>	<p>Practical consultancies -</p>

<p>nutrition</p> <p>Fertilizer-Animal manure/ash</p> <p>Irrigation - Watered by carrying water from river. Willing to get water pump.</p> <p>Pests - None</p> <p>Seed reserve- 500 kg of potato seeds; need for oat seed is high</p> <p>Storage - Hole beneath a ger</p> <p><i>Comments from members:</i> Interested in much more on-site training</p> <p>Market information - Bagh households located nearby. Aimag center is located 80 km away; soum center 20 km. Market price is MNT 300.</p>	<p>potatoes produced. Members interested in planting oats; but no seeds available</p>	<p>Acquired land to plant potatoes, some of which were sold and some stored</p> <p>Collected 5 ton of hay</p>	<p>Seeds obtained from Mazar grew well</p>	<p>Lower than expected temperatures reduced yields</p>	<p>Planted fruit woods but did not know how to plant or cultivate them.</p>	<p>Planting and cultivation of fruit woods</p> <p>Fertilizer - improve knowledge on how to fertilize land with manure processed by bio methods</p> <p>Facilitation - Need for high quality vegetable/oat seeds</p> <p>Business Management - Interested to learn more about taxes, insurance schemes and financial recordkeeping</p>
<p>6. "Aviat aman bulag"</p> <p>Soil - Black soil, high nutrition</p> <p>Fertilizer - Manure</p> <p>Irrigation - Surface irrigation using canals from well. No irrigation or wells to plant fodder</p> <p>Pests - Grasshoppers, beetles and brown rabbits</p> <p>Seed reserve - Potato seeds</p> <p>Storage -Built a potato cellar</p> <p><i>Comments by members:</i> Need seeds of higher quality and seeds for early cabbage. Looking to build greenhouse; need training</p> <p>Market information - Aimag center 53 km, soum center 20 km. Good market for vegetables in nearby soums. Nearest competitor 20 km away</p>	<p>Harvested 10 tons potatoes. Rabbits eat all carrots. Beetroot did not grow because of bad seeds. Did not plant fodder due to lack of irrigation</p>	<p>Land - Acquired land to plant vegetables, primarily potato which grew well, reaching planned rate</p> <p>Collected 20 tons of hay</p>	<p>Irrigation & Fertilizer - Irrigated and fertilized land for vegetable production prior to planting; did not do the same for planned fodder area</p>	<p>Planning- Planned to produce fodder although irrigation issue was not resolved</p> <p>Pests- Increased number of beetles and grasshoppers. -Brown rabbits eat many of carrots.</p>	<p>Knowledge-</p> <ul style="list-style-type: none"> -Planted seeds without sowing; did not know enough about seed quality. -Not familiar with technology to plant beetroot/cabbage (cabbage was not bailed) -Transplanting methodology 	<p>Practical consultancy - Greenhouse construction and production</p> <p>Fertilizer - improve knowledge on how to fertilize the land with manure processed by bio methods</p> <p>Pests - use of pesticides as appropriate</p> <p>Facilitation - good quality oat and beetroot seeds are required</p>

<p>Umnugobi 1. "Khamtyn huch" Soil - Gobi brown soil with light clay structure poor in productivity Fertilizer - 40 hectares fertilized with manure Irrigation - surface irrigation by canal from well in one field and pond water for another field. Seed reserve - Potato seed Storage - stored at home, planning to move into cellar. Equipment and tools - Honda engine used for irrigation not working <i>Comments by members:</i> Irrigation equipment doesn't work reliably, and takes a long time to repair. Market information - Will supply to Khurment by contract. Also bartered for animals. Close to aimag center. Competitor located nearby (1 km). Potato market price MNT 150-200.</p>	<p>Harvested 6 ton of potatoes, 400 kg of beets 300 kg of onions. Also watermelons and pumpkins</p>	<p>Land - Acquired land to plant vegetables. Sold a lot of vegetables at aimag market event. Made jam from pumpkins</p>	<p>Irrigation & Fertilizer - Irrigated and fertilized land for vegetable production prior to planting</p>	<p>Equipment - Honda engine used for irrigation broken</p>	<p>Water shortage - Engine consumed large amount of fuel and was often broken Crop selection - Did not anticipate that beets would bring a good price at market.</p>	<p>Irrigation equipment- Information/facilitation on pump with higher capacity and requiring less fuel Crop selection - Plan on beet crop for next year Fertilizer - improve knowledge on how to fertilize the land with manure processed by bio methods</p>
<p>2. "Gobi tulga" Soil - Gobi brown soil with light clay texture, poor in productivity. Improved its productivity by adding sand and manure. Irrigation - surface irrigation by canal from well in one field and pond water for another field. Fertilizer - Manure Pests - Grasshoppers ate oat seeds</p>	<p>.</p>	<p>Land - Acquired land to plant potatoes, corn and oats for own consumption. Sold 2 tons vegetables to Ivanhoe;</p>	<p>Irrigation & Fertilizer - Irrigated and fertilized land for vegetable production prior to planting</p>	<p>Irrigation - Well needs repair Site selection - Suitable site for planting animal feed not yet found</p>	<p>Water cost -- Engine consumed large amount of fuel Fuel cost - About MNT 250,000 spent on carrying manure and sand, plowing land and transporting</p>	<p>Practical trainings- Need to learn how to plant fruit wood and watermelons Equipment- Need equipment for cutting fodder</p>

<p>Seed reserve - available potato and onion seeds. Will get watermelon seeds of good quality from Oyuntuya. Need wheat seeds adapted for Gobi and good quality oat seeds</p> <p>Storage - Stored vegetables in outside cellar in good condition.</p> <p>Equipment and tools - Some members went to China to buy well engine. Need small tractor to move sand and manure</p> <p><i>Comments by members:</i> Willing to try oat production again next year</p> <p>Market information - Good local animal feed/vegetable market. Can sell to Ivanhoe Mines. Aimag center 60 km.</p>		remaining crop stored			vegetables. Concerned about increasing fuel prices	
<p>3. "Aduut gobi"</p> <p>Soil - Gobi brown soil with light clay texture, poor productivity</p> <p>Fertilizer - Large quantity of manure</p> <p>Irrigation surface method, canal from well</p> <p>Pests - Large number of voles</p> <p>Seed reserve - sufficient for next year's planting</p> <p>Storage - Cellar</p> <p>Market information - Close to aimag center; sell both wholesale and retail. Can sell to Ivanhoe Mines.</p>	Crop yield meets the planned expectations	<p>Land - Acquired land to plant vegetables, did well despite difficult soil conditions. Will plant fodder in the future</p>	<p>Irrigation - Earlier irrigation problem resolved</p> <p>Fertilizer - improved soil by adding manure and sand</p> <p>Labor -diligent and hard working</p>		<p>Seeds - Could not locate proper oat and alfalfa seeds</p>	<p>Seed Facilitation - Need good quality alfalfa and oat seeds</p>

<p>Bayankhongor</p> <p>1. "Modon Ovoonii ekhlel"</p> <p>Soil - Gobi brown soil poor in productivity</p> <p>Fertilizer - Manure</p> <p>Irrigation - Surface irrigation, watering once every two days</p> <p>Pests - Large number of voles</p> <p>Seed reserve - Potato seed</p> <p>Storage - In ger</p> <p><i>Comments by members:</i></p> <p>Good quality seed not available. Need advice on planting cabbage.</p> <p>Market information - Good market opportunities in Bogd and Jinst soums</p>	<p>Harvested 8.2 tons of potatoes, 0.8 tons of carrots and 0.6 tons of cabbage</p>	<p>Land - Acquired land to plant vegetables and did fairly well. Interested in growing fodder in the future.</p> <p>Collected 20 ton of hay</p>	<p>Fertilizer - Fertilized soil with manure very well</p>	<p>Excess irrigation</p> <p>Smaller size of cabbages and other vegetables due to excess watering</p>	<p>Knowledge and experience - Some plants received too much water</p>	<p>Practical consultancies - Planting and irrigation of watermelons, cucumbers and cabbages in the field</p>
<p>2. "Tsagaan Undarga"</p> <p>Soil - Gobi light brown with poor productivity</p> <p>Fertilizer - Manure</p> <p>Irrigation - Surface irrigation.</p> <p>Pests - Large number of voles</p> <p>Seed storage - Sold potato seeds as impossible to store. Will buy new seeds in spring. Voles ate all oat seeds.</p> <p><i>Comments by members:</i></p> <p>Seed quality is major concern. Will plant vegetables on 1 hectare in 2005</p> <p>Market information - long distances with aimag center at 100 km and soum center at 45 km</p> <p>Local vegetables prices are MNT 180-200.</p>	<p>Did not achieve expected rate due to poor irrigation technique</p>	<p>Land - Acquired land to plant vegetables mostly for own consumption and collected some seeds for next year planting. Vegetable interest is high.</p> <p>Collected 1 ton of hay.</p>	<p>Fertilizer - Fertilized well</p> <p>Labor - Diligent and hard-working group</p>	<p>Irrigation - Had significant water loss; canals not properly lined to prevent water loss</p> <p>Planting - Planting was later than desirable; some concern over seed quality</p>	<p>Knowledge - Everything related to proper irrigation and water conservation</p>	<p>Practical consultancies - Reducing water loss and proper irrigation technique</p> <p>Alternative crops - Introduction of fruit woods</p>

<p>3. "Baidragiin Khishigt" Soil - Gobi brown soil with poor productivity Fertilizer - Manure Irrigation - Surface irrigation Pests - Large number of voles and flies Seed reserve - potatoes Storage - Hole of 2 meter depth Market information - Not very close to any significant markets</p>	<p>6 tons of potatoes and other vegetables harvested. Yield fell short of plan</p>	<p>Land - Acquired land to plant vegetables And used vegetable waste with fodder to feed animals Collected 23 tons of hay</p>	<p>Labor - Well experienced, diligent and hard working</p>	<p>Pests - Significant problem of voles and black flies</p>	<p>Transport costs - Remote location of group means high fuel costs to move vegetables to market. Compete with cheaper Chinese products. As result, sold production at MNT 150, below true market value.</p>	<p>Marketing - Learn how to pre-sell vegetables or sell through reliable market vendors. Pests - Use appropriate pest control measures including pesticides where necessary</p>
<p>4. "Mal munkh" Soil- Gobi brown soil with lower productivity Fertilizer- Manure Irrigation- Surface irrigation with water canals from river Pests - Large number of voles, black flies and white butterflies Seed reserve - Potato seed (but nor properly stored) <i>Comments by members:</i> Shortage of working force, field is located too far away. Will change location and focus on production for own consumption Market information - It is possible to sell vegetables in nearby markets, requiring some additional transport costs.</p>	<p>2.1 tons of potatoes were harvested.</p>	<p>Land - Acquired land to plant 6 tons of potato, 1.3 tons of carrot, 3 tons of cabbage and 9 tons hay</p>	<p>Irrigation - Adequate system (but inadequate oversight)</p>	<p>Knowledge - Due to insufficient awareness of labor requirement group members did not provide enough oversight, hampered by the large distance</p>	<p>Site selection and labor - Vegetable field located at 60 km distance; could not be visited on a regular basis. Pests - Significant pest problem</p>	<p>Practical consultancies - Proper site selection within area permitting regular on-site care and supervision Seed reserve - Proper seed storage technique</p>